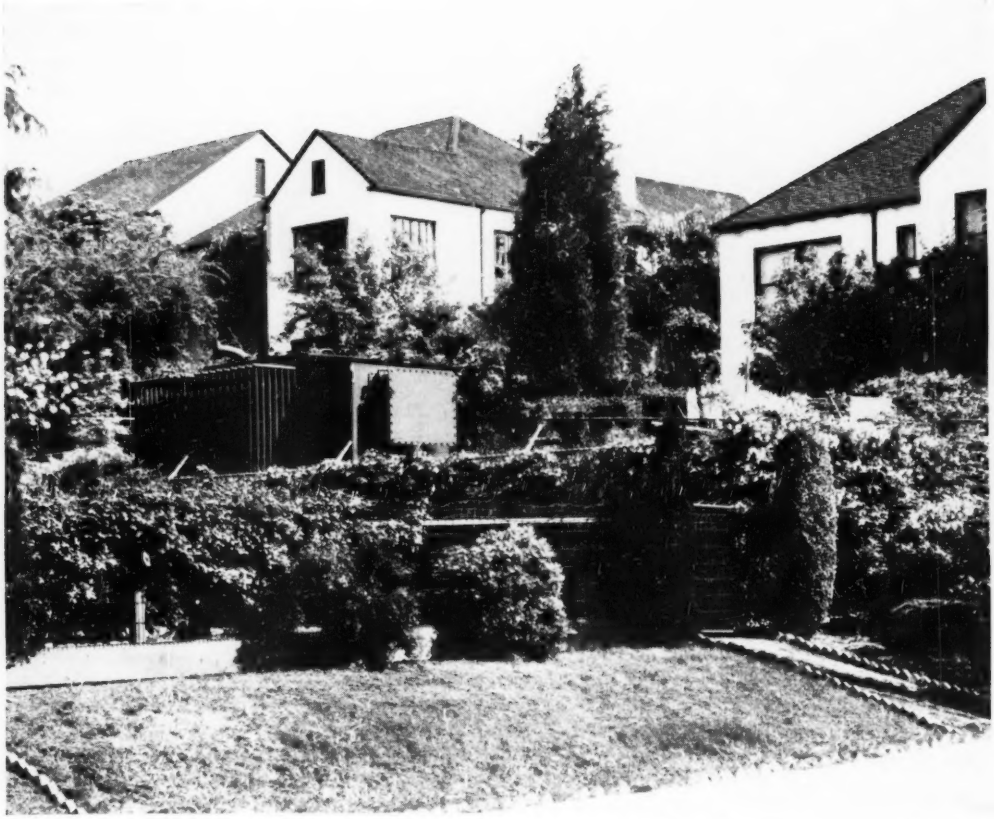
ELECTRICAL WORLD *News Issue*

AUGUST 6, 1949

A McGRAW-HILL PUBLICATION

Charles E. Ide, Newly Elected President of Toledo Edison Co



How attractive can a Substation be?

Maybe you've hesitated to take advantage of the many benefits of locating your substations close to the load because you were afraid of the reaction of placing substations in residential districts.

Other utilities felt the same way too, until they investigated the advantages of G-E unit substations outlined by our engineers.

They were told that substations literally can be "dropped" in anywhere on the system to take care of present and future load demands.

And with a little incidental landscaping, the substations became an inconspicuous part of the community.

We'd like to show you more examples of how other utilities integrated G-E unit substations into their planning. We'd also like to tell you about the many advantages—such as lower costs and increased reliability—of G-E load center power distribution. Give us a call at the office, or write for brochure GEA-5155 that shows how other utilities took advantage of G-E engineering and service. *Apparatus Department, General Electric Co., Schenectady 5, N. Y.*

GENERAL ELECTRIC

121-66

The Electrical Week

Better mobile radio service for utilities is here. FCC has adopted the plan of the National Committee for Utilities Radio to allocate frequencies to utilities in such a way as to reduce interference . . . The Washington PUD's which expect to take over the Puget Sound Power & Light Co have one thing ahead of them, trouble. Tacoma, Seattle, and several smaller communities are laying down their terms to be met or else . . . The utilities are adding customers rapidly but there are only 27 in the United States, including one municipal, which serve 300,000 or more customers. Last year there were only 25 . . . And in South Carolina the three utilities which serve the state received a bad blow in the state's supreme court. Santee-Cooper was given the right to build transmission lines paralleling those of the utilities.

Based on the May rate of consumption, coal stocks on hand at electric utility power plants June 1 were sufficient to last 136 days, compared with 118 days a month earlier and 70 days a year ago.

The Economic Cooperation Administration is looking with favor on the suggestion that the Western powers supply equipment for a power plant in Poland and one in Czechoslovakia. The equipment would be paid for by cheap power from the plants. Present ECA idea is to start manufacturing the equipment. If the East and West have not settled their differences by 1952 when the equipment is ready, it could be used elsewhere.

By simply inviting a group of newspaper people to tour its properties, one New Jersey utility has turned enemies into friends and won columns of praise for its work and public service.

For cheap money to finance construction, utilities might try an 8% non-interest bearing stock (or bond) issue that a New York swindler once planned to market before the law interfered. If successful the utilities could scorn expensive government loans, more expensive commercial ones.

A vacation with pay plus $25 a week unemployment compensation is the pleasant outlook for many of the employees at the West Lynn Plant of General Electric Co. It's legal, too, under a new Massachusetts law, but the vacation must be preceded by a brief unpaid lay-off.

The International Joint Commission will hold its first hearings on the Passamaquoddy project Aug 19 at St. Andrews, N. B. These will be followed on Aug 22 by hearings at Eastport, Me.

In only three states has the Rural Electrification Administration approved no loans: Connecticut, Massachusetts, and Rhode Island.

The average annual bill for residential electric service has passed the 1,600-kwhr mark.

Of the $74,324,670 in 1948 taxes paid by Consolidated Edison of New York, New York City got $33,427,199, Uncle Sam $28,562,792, the state $9,815,693, the county and other municipalities the remainder. In addition, New York City residents paid a sales tax on their utility bills. Twenty percent of all income went for taxes.

Georgia Power Co has installed a cable car to take visitors to the bottom of the gorge at Tallulah Falls, where it has a hydroelectric plant. The incline railway down the side of the gorge is 1,165 ft long, and the vertical descent is about 650 ft.

The Illuminating Engineering Society is 43 years old and has some 7,000 members.

Notes From The News

A contract to patrol the 2,500-mile Bonneville Power system has been awarded Rick Helicopters, Inc, Los Angeles, on a bid of $43.43 an hour. The contract, which runs until the end of the fiscal year, calls for a minimum of 600 hours flight operation in addition to patrols. . . . Northeastern Oklahoma cities have called off their investigation of Grand River Dam Authority's proposed 15% power rate hike. Mayor James Hammett of Claremore, president of the Grand River Consumers Association, said "according to the Authority's figures they are justified in making the rate increase." . . . Federal Power Commission has authorized issuance of a 50-year license to Oakdale Irrigation District and South San Joaquin Irrigation District for a hydroelectric project on the Middle Fork of the Stanislaus River in Tuolumne County, Calif. Output of the 13,500-kw powerhouse will be sold to Pacific Gas & Electric Co. Cost is estimated at $8,840,000. . . . The Caldwell, Ohio, Village Council has voted to authorize expenditure of $125,000 for purchase of

Continued on following page

What d'ya mean...
a PRIVATE utility?
I have more than 12,000 owners. That's how many people have invested their savings in my company.
To put it another way, I have 12 owners for each employee.
A business like mine has to have many owners because it requires a lot of money for plant and equipment. In fact, it takes over $50,000 worth for each employee — as compared with an average of $6,600 per employee in other industries.
All over the country there are hundreds of other utility companies just like mine, with hundreds of thousands of owners. Altogether these "private" utilities have some 3,500,000 direct owners.
PRIVATE? Yes, privately owned and operated. But it's a pretty PUBLIC business just the same.
WESTERN MASSACHUSETTS ELECTRIC COMPANY
Electric

AIN'T IT THE TRUTH might be the ungrammatical comment on this advertisement of the Western Massachusetts Electric Co, which supplies the public with some ideas that it seldom considers

two new 350-kw generators to be installed in the village-owned power plant.

Several hundred power customers near Church Hill, Va., were without electricity for 10 hours July 26 after a 2,300-v cable "exploded" at the East End substation of Virginia Electric & Power Co. The cable, leading from the substation to overhead distribution wires, was burned in two. Cause of the accident was not determined . . . Montana-Dakota Utilities Co, Minneapolis, Minn., is seeking FPC permission to issue $1.5 million in 3⅛% first mortgage bonds, due in 1972. They would be sold to four insurance companies and an employees' pension fund . . .

The House Committee on Expenditures visited TVA last week as the first step in its plans to study the economy and efficiency of the government power agency. . . . Helen Hayes and the Electric Theater will return to the air Oct 9. The program, sponsored by Electric Companies Advertising Program, has been on summer vacation. . . . Northern Indiana Public Service Co has registered a proposed offering of 311,654 shares of no-par-value common stock to finance a $46-million expansion program planned for through 1951. The stock will be offered to common stockholders at one for seven.

An anti-sunburn meter to guide sunbathers in tanning painlessly may be on sale within a year or two. The pocket-sized meter being developed by General Electric Co, adjustable to various shades of skin, will show intensity of the sun and warn users how much exposure their skins can take . . . Georgia Power Co followed up the wide public support it received in the strike of its trolley bus operators by sending a copy of its employee handbook to the mayor of each community it serves . . .All employees of Central Power & Light Co, Corpus Christi, Tex., have been sent copies of a comic book, "We Hit the Jackpot," by Dwight Carlsen. The book explains the advantages of free enterprise . . . Bip Farnsworth, Georgia Power Co merchandising manager, stamps all his correspondence with the slogan, "Of Course it's Electric!" He says it's one way to get people to realize electricity will do the job better.

Manufacturers & Markets

Lead is still going up in price. It has reached 14½¢ a lb New York . . . Consumption of refined copper is on the upgrade. Consumption was 111,596 tons last January, it dropped to 61,383 tons in May, but the June figure was 70,916 tons . . . The Distinguished Service to Safety Award of the National Safety Council has been conferred upon 13 Westinghouse plants . . . Allegheny Ludlum Steel Corp has put two open hearths at its Brackenridge Plant into production making silicon steel . . . Apex Electrical Manufacturing Co has granted manufacturing rights to two Canadian firms, J. H. Connor & Son, Ottawa, and Rogers Majestic, Ltd, Toronto. The firms will make Apex washers, vacuum cleaners, dishwashers, and other products for the Canadian market . . . A wartime employee of the Jackson (Miss.) Lamp Works, a division of General Electric Co, has received $20,000 in damages because of beryllium poisoning supposedly contracted while manufacturing fluorescent lamps . . . Westinghouse is now manufacturing a left-handed iron. Left-handed women had complained that the old irons with cords extending from the right side were inconvenient to use.

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Mobile Radio Stations Thinned Out

National Committee for Utilities Radio Gets FCC to Allocate Frequencies to Minimize Interference; Entire United States Is Divided Into 10 Zones

BETTER MOBILE RADIO service is now available for the nation's utilities. The ultimate gainer will be the customer of the privately owned electric utility. The immediate gainers are the employees of the electric utilities who must use such service daily while on the job.

The improved service has been brought about by the Federal Communications Commission, which has allotted 33 frequencies for use of utilities (gas, water, and steam as well as electric) in three different bands, 37 mc, 47 mc, and 48 mc.

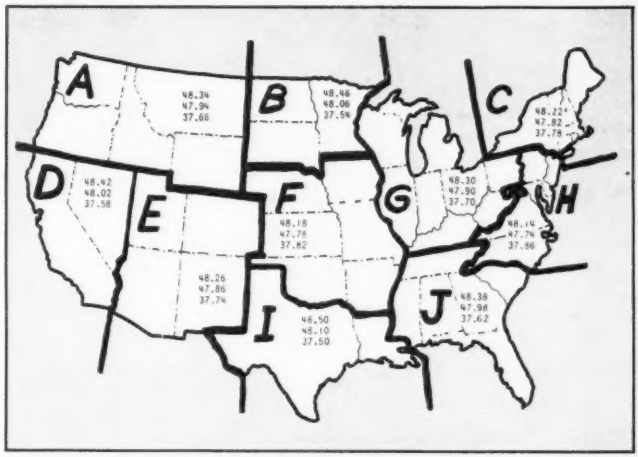
NCUR Behind the Plan

Behind the allocation is the work of the National Committee for Utilities Radio. This group was set up by ten regional groups and a number of trade organizations. The regional groups were composed of users and prospective users in a particular geographical region. It was NCUR which recommended to FCC the allocation of channels and which won for the utilities the channels deemed necessary by the four utilities industries.

For the past several years the number of utilities operating radio systems has been increasing. Those operating in the 30-40 mc region have been subject to increasingly heavy interference from other systems within and without the utility group. Much of this interference has been from stations located thousands of miles away. This type of interference, usually called "skip" interference, had become so serious that something had to be done to eliminate it. This was so because as the number of stations increased the severity of the problem increased until at times the value of the radio to the licensee was all but lost. The result was the plan of NCUR which FCC has endorsed.

Entire United States Zoned

This plan divides the entire continental United States into ten geographical zones (See Map) to each of which is assigned three frequencies of the 33 allocated to the Power Radio Service (for utilities) in the 30-50-mc band or region. One of these three frequencies is in the 37-mc, one in the 47-mc, and one in the 48-mc block. If all the applicants for frequencies in each zone could be accommodated without the danger of mutual interference on those three frequencies, all danger of "skip" interference from stations in this service would be eliminated. However, there are too many applicants and too few frequencies to accomplish this utopian ideal. Additional frequencies are necessary. These are "borrowed" from another zone. The national plan adopted provides a way in which this can be done so as to reduce "skip" interference to a minimum.



ZONES AND ZONE FREQUENCIES for "Power Radio Service" as adopted by FCC. Channels 37.46, 47.70, and 48.54 mc may be used in all zones after careful local coordination

This shift is causing some trouble. Each regional frequency coordination committee (working under the NRUC plan) is responsible for recommending to prospective licensees in its region the particular frequency for which each of them should apply to the FCC. Since under the national plan about equal numbers of systems are assigned to each of the three blocks, 37 mc, 47 mc, and 48 mc, some systems have been asked to apply for a frequency at a considerable distance from the one which they have been using. To the utilities this has been most important. The greater the change, the greater the cost.

NRUC takes this stand. If any band is crowded, all utilities will suffer. For the public good (and for that of the utilities industries) it is better that no band be overcrowded. The cost of the change in any event is not more than 10% of the investment in the equipment, a small enough price to pay to avoid degradation of service which would result from loading the 37-mc band (the most frequently used in the past) in all zones.

NRUC has been taking every precaution to avoid being charged with favoritism in its assignments. Indications are that all utilities, including the electric, will cooperate as they have always done when the good of the public is at stake.

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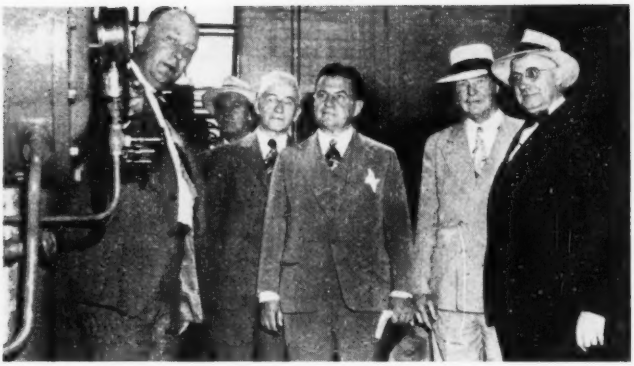
To Boost Dam Capacity

Georgia Power Co will be permitted to strengthen sections of its Bartletts Ferry Dam and increase authorized installed capacity from 80,000 to 94,500 hp. The changes were approved by Federal Power Commission in an order authorizing amendment of the license for the hydro project, located on the Chattahoochee River on the Alabama-Georgia line. The utility will install a 28,500-hp turbine and a 20,000-kw generator as a fourth unit instead of the 22,000-hp turbine and 15,000-kw generator previously approved by the Federal Power Commission.



NEWER UNITS at the Montville Plant of Connecticut Light & Power Co are inspected by company officials and the Connecticut Public Utilities Commission. Two 35,500-kw units have been installed to replace two 10,000-kw units dating from 1918. Left to right are Raymond C. Watts, plant superintendent; Director Richard E. Pritchard; President Robert H. Knowlton; Eugene S. Loughlin, PUC chairman; Director John H. Trumbull, former governor of Connecticut; and Chairman Charles L. Campbell, former company president

Illinois Agency Changed to Attract Career Men

A bill making the Illinois Commerce Commission nonpartisan, raising the pay of members, and extending their terms became law July 27. The legislation is intended to attract and keep high-caliber men in Commission jobs.

Commissioners will serve for five years instead of two and will be paid $12,000 a year. The old scale was $7,500 a year for members and $8,000 for the chairman. No more than three of the five members can belong to the same political party.

The law ended the existing terms of the incumbents but continued them in office pending appointment of successors. Gov Adlai Stevenson has reappointed two Democrats, James J. Danaher and Kenneth Campbell, and one Republican, Chairman Walter T. Fisher. He took no action on the other two members, John D. Biggs and Edward A. Rosenstone, both Republican appointees of former Gov Dwight H. Green.

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Pension Plan at Toledo

Toledo Edison has instituted a retirement annuity plan open to all employees after five years' service. Sixty percent of the working force will be eligible immediately and receive credit for past service averaging more than 20 years per employee. The company will make all contributions up to July 1, after which time both company and employee will share the cost. The plan will provide a fixed income at 65 to supplement Social Security payments.

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PUD Upheld by Court

Washington State Supreme Court has upheld proceedings under which the Chelan Public Utility District plans to acquire property of the Washington Water Power Co by condemnation. It declared the Chelan County Superior Court ruled correctly in issuing an order of public use and necessity.

Suit Charges Iowans with Fraud of $4 Million

An Iowa Electric Light & Power Co stockholder has filed a suit in federal court in Cedar Rapids charging that President Sutherland Dows and directors of the company defrauded it of nearly $4 million. The petition says Dows and 23 other individual and corporate defendants, in 1932 and later, "developed, framed and carried out a conspiracy" to defraud the company.

The suit claims Dows obtained about $800,000 of the corporation's holdings for "an arbitrary and inadequate consideration" through transactions involving securities and assets of the company and its subsidiaries.

A spokesman for the utility said Dows had purchased the holdings in question "at a fair value after negotiations with other possible purchasers." He said Dows was not president of the corporation at that time.

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Utility in Nauvoo Is Sold

Union Electric Power Co has bought Nauvoo Electric Light & Power Co, Nauvoo, Ill., for $40,000. Nauvoo City Council already had voted Union Electric Power a 25-year franchise. The properties bought formerly distributed UEP power to about 400 customers in Nauvoo and the adjoining rural area. Union Electric Power will change the Nauvoo service from 25 to 60-cycle.

Changes in Capacity Reported to Federal Power Commission

PLANT ADDITIONS IN JUNE

Utility	Plant	Fuel	Capacity (Kw)
Bangor Hydro Electric Co	Orono, Me	H	480
Cambridge (Mass.) Electric Light Co	Kendall Square	S	15,000
Consolidated Edison Co of New York	Waterside No. 2	S	50,000
Bath Electric Gas & Water Department	Bath, New York	IC	800
Philadelphia Electric Co	Barbadoes Isle	S	60,000
Montpelier Municipal Utilities	Montpelier, Ohio	S	2,000
Ohio State University	Columbus	S	5,000
Crawfordsville Electric Light & Power Department	Crawfordsville, Ind.	S	7,500
Commonwealth Edison Co (Chicago)	Fisk	S	150,000
Consumers Power Co	Webber, Mich.	H	1,000
Virginia Water & Light Department	Virginia, Minn.	S	5,000
Fairmont Water & Light Commission	Fairmont, Minn.	S	4,000
Willmar Water & Light Department	Willmar, Minn.	S	4,000
Iowa Southern Utilities Co	Washington	IC	2,320
Iowa Electric Light & Power Co	Jefferson	IC	1,000
Pukwana Light & Power Co	Pukwana, S. D.	IC	130
Danville Water, Gas & Electric Department	Branty, Va.	S	6,000
Gulf Power Co	Pensacola, Fla.	S	22,500
Jonesboro Water & Light Department	Jonesboro, Ark.	S	7,500
Stilwell Light & Water Department	Stilwell, Okla.	IC	175
Fairview Electric Light & Water Department	Fairview, Okla.	IC	840
Texas Electric Service Co	Permian Basin	S	12,500
Kit Carson Electric Cooperative, Inc.	Taos, N. M.	IC	522
Tucson (Ariz.) Gas, Electric Light & Power Co	Demoss-Petrie	S	12,500

PLANT RETIREMENTS IN MAY

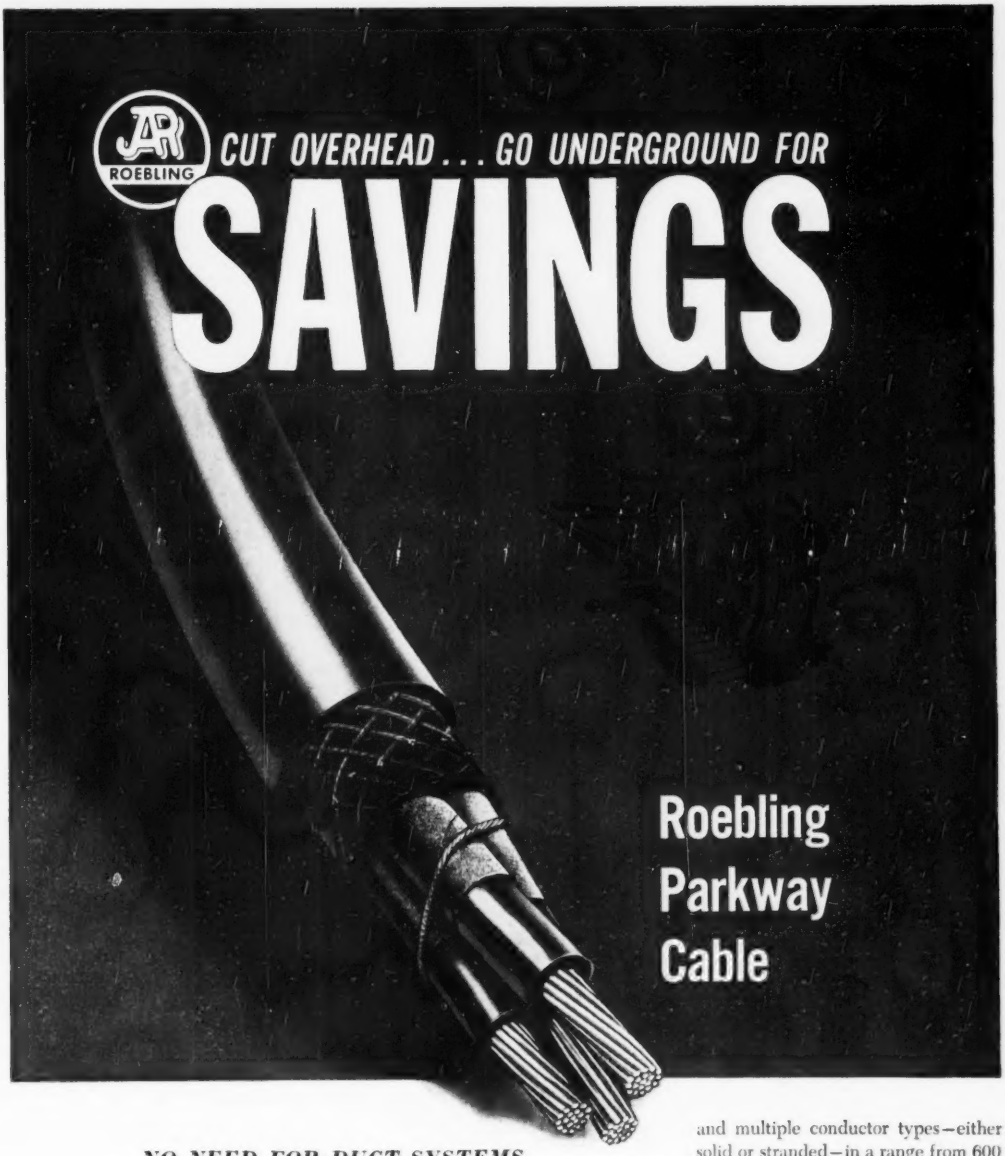
Ohio State University	Columbus	S	1,500
Public Service Co of Indiana	Kokomo	S	10,000
Consumers Power Co	Webber, Mich.	H	750
Northern Arizona Utilities Co	St. John	IC	120

H—Hydro, IC—Internal Combustion, S—Steam.
United States Capacity as of July 1: Steam, 41,024,814 Kw; Internal Combustion, 1,676,920 Kw; Hydro, 15,872,203 Kw; Total, 58,573,937 Kw.

JR ROEBLING

CUT OVERHEAD . . . GO UNDERGROUND FOR

SAVINGS



NO NEED FOR DUCT SYSTEMS

ROEBLING PARKWAY CABLE is laid directly in the ground. No complicated and costly duct systems . . . a trench only two or three feet deep is ample and economical. Once installed, you can count on Roebling Parkway for trouble-free and uninterrupted service.

You have the choice of Roebling Parkway Cable with metallic armor or with a non-metallic, neoprene sheath that affords dependable physical protection. Both can be supplied in single and multiple conductor types—either solid or stranded—in a range from 600 to 5000 volts.

Your nearest Roebling distributor or Roebling office will be glad to help you select the best cable for your particular requirements. Call on them for any desired assistance. John A. Roebling's Sons Company, Trenton 2, New Jersey.

WRITE OR CALL THE ROEBLING FIELD MAN AT YOUR NEAREST ROEBLING OFFICE AND WAREHOUSE

Atlanta, 931 Avon Ave. ★ *Boston*, 51 Sleeper St. ★ *Chicago*, 5525 W. Roosevelt Rd. ★ *Cleveland*, 701 St. Clair Ave., N. E. ★ *Denver*, 1635 17th St. ★ *Houston*, 6216 Navigation Blvd. ★ *Los Angeles*, 216 S. Alameda St. ★ *New York*, 19 Rector St. ★ *Philadelphia*, 12 S. 12th St. ★ *Pittsburgh*, 355 W. North Ave. ★ *Portland, Ore.*, 1032 N. W. 14th Ave. ★ *San Francisco*, 1740 17th St. ★ *Seattle*, 900 First Ave.

ROEBLING

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TO: PACIFIC ELECTRIC MFG. COMPANY
FOR: PUGET SOUND POWER & LIGHT CO.

Of the many O-B Bushing installations in the west, this is an outstanding one; located in the Renton Station of Puget Sound Power & Light Company at Seattle, Washington. Builder of the breakers, the Pacific Electric Manufacturing Company, states . . . "Rating, 115 kv, 800 amp., 1,500,000 interrupting kva, 5-cycle trip, 20-cycle reclose. Mechanical stress on bushings is avoided by use of sliding-shoe contacts. These require no critical adjustment to fix closed position, nor is contact pressure affected by wear. Other Pacific features include closing by stored energy of motor-compressed springs, expulsion-chamber arc extinguishment." And . . .

BUSHINGS ONE OF THE FINEST COMPONENTS OF *ANY* CIRCUIT BREAKER . . . . .

Ohio Brass MANSFIELD, OHIO

2988-M

QUALITY CONTROL DATA SHEET

SYLVANIA FLUORESCENT LAMPS

UNIFORM COATING OF SYLVANIA FLUORESCENT LAMPS ASSURED THROUGH USE OF ELECTRONIC INSPECTOR

HIGH LIGHT output over the entire surface of Sylvania Fluorescent Lamps is one of the features that make them known as "Fluorescent At Its Finest!" To get this uniformly high production of light, three most important conditions must be met: 1. The phosphor particles have to be uniform in size. 2. They must be evenly distributed over the glass tube's surface. 3. This phosphor coating must be of equal depth throughout, eliminating mottled effects when lamps are lighted.

To assure meeting these three conditions, the electronic inspector (shown above) is used . . . one of many instruments employed to produce the finest in fluorescent illumination! Sylvania Electric Products Inc., 500 Fifth Ave., New York 18, N. Y.

SYLVANIA ELECTRIC

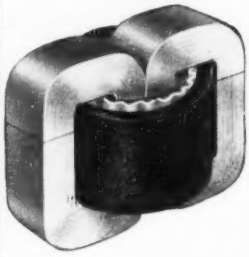
FLUORESCENT LAMPS FIXTURES WIRING DEVICES SIGN TUBING LIGHT BULBS PHOTOLAMPS RADIO TUBES CATHODE RAY TUBES ELECTRONIC DEVICES

A smaller package for a BIGGER Job!

They say good things come in small packages. In the case of Moloney HiperCore Transformers, it's true! Though much smaller in size and lighter in weight, HiperCore Transformers have greater short-time overload capacity, better voltage regulation and are much more dependable for all-around sustained performance. Averaging ⅓ smaller in size and weight, HiperCore Transformers have improved characteristics, which will be reflected in your maintenance and operating records.

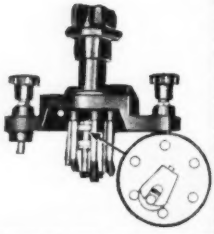
LET'S LOOK INSIDE

HiperCore Transformer cores are wound from oriented, silicon steel. Each loop is annealed in its final form and individual laminations do not have to be disturbed for assembly, assuring top performance of unstressed core steel. Annealed core loop is impregnated with high temperature plastic binder which makes possible cutting into two U-shaped pieces. Cutting burrs are neatly removed by etching.

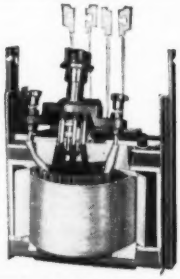


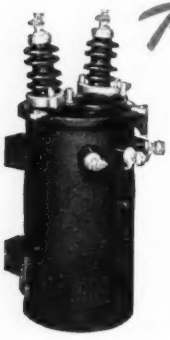
The core-and-coil unit is a center-leg type of construction, having a single coil and two core loops. Each core loop is cut into two U-shaped pieces after impregnation, and then cemented back together when the coil is in place. Steel bands around each core loop hold the two U-shaped pieces tightly together with a force of from one to three tons.

The Moloney HiperCore Tap Changer is unmatched in ruggedness and design. The plainly numbered operating handle is located *above* the hot oil level. Double-wedged contacts snap into place with a wiping action. Sturdy beryllium copper springs provide high pressure contact.



The complete core-and-coil unit for a HiperCore Transformer is the last word in compact design and superior performance. Simplicity of design plus liberal use of materials and adequate cooling ducts combine to make HiperCore Transformers cooler operating and better performing, resulting in longer life under normal operating conditions.





Plus FEATURES

- ✓ Lower Hottest-spot-over-oil temperature
- ✓ Longer Operating Life
- ✓ High Factor-of-Safety in Design
- ✓ Lighter Weight
- ✓ Smaller Size
- ✓ Greater Short-Time Overload Capacity
- ✓ Better Voltage Regulation
- ✓ Superior Tap Changer

Send for Bulletin H-303 discribing HiperCore Transformers.

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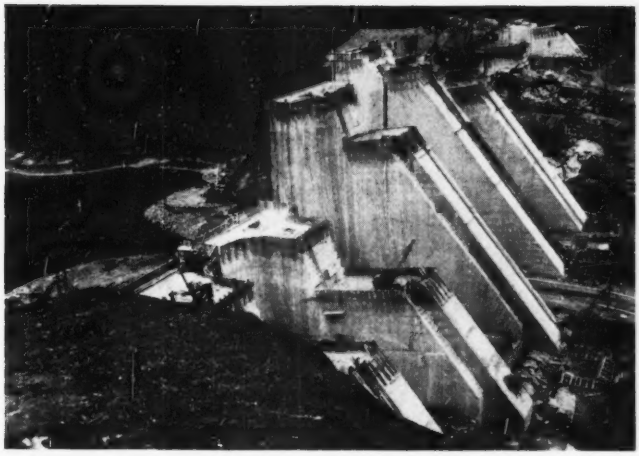
ME49-19



OUTPUT equal to half of Scotland's present consumption of electrical energy will be produced at Loch Sloy Dam, which is now under construction. The dam will be 160 ft high

Opposition Grows to PUD Purchase of Puget Sound

With a financing plan for joint acquisition of Puget Sound Power & Light Co properties by a group of Washington PUD's believed virtually completed, opposition is developing from several quarters.

C. A. Erdahl, Tacoma Commissioner of Public Utilities, has declared he will fight the proposed transaction "unless Tacoma City Light's problem is recognized." Tacoma has condemnation actions pending against the company's White River and Electron power plants and distribution facilities near the city. "Recognition" of Tacoma's problem might mean either PUD sale of these properties to Tacoma, believed unlikely, or a PUD agreement to supply Tacoma with the additional 25,000 or 30,000 kw it says it needs.

Seattle has begun preliminary negotiations toward purchase of similar facilities in its area. It also would like to have the White River plant, though it probably would settle for any combination adding up to 80,000 kw. Seattle could get this capacity either from the Rock Island plant on the Columbia River or from a combination of the White River and Snoqualmie Falls installations. Several smaller cities in King and Pierce Counties of western Washington are considering purchase of Puget Sound P&L distribution systems within their corporate areas.

Smith Troy, state attorney-general, has indicated he will seek a court decision on legality of the recent state legislature's measure making the PUD purchase possible. The law is questioned on the grounds that its title touches on more than one subject, contrary to the state constitution.

Meanwhile the legislative committee of the Everett Chamber of Commerce has proposed an "impartial hearing" to determine the effects of the purchase proposal on the Snohomish County PUD, which proposes to buy Puget Power's system in the county for $16,650,000 and build a $14-million hydroelectric plant. The committee estimates the Snohomish PUD share of an overall purchase of the utility at $10 million and questions whether revenues would be sufficient to justify the combined investment of more than $40 million.

•

Louisiana P&L to Build New "Push-Button" Station

Louisiana Power & Light Co will construct an outdoor generating station at Nine-Mile Point near the Mississippi River Bridge in New Orleans. The first of four units will cost approximately $9 million and is scheduled for operation early in 1951.

Pres W. O. Turner said that the station is designed for "push-button" operation. The plant, to be operated from an air-conditioned room, will require the services of only three men on any one shift.

Initial installation will be a 66,000-kw turbo-generator and a 650,000 lb-per-hour steam boiler of 1,350 lb and 950 deg.

$1 Billion Projects Up for House Consideration

Congress cleared the way this week for legislation authorizing more than $1 billion in new rivers and harbors and flood control developments. Included in the imposing list of projects were seven hydroelectric projects scheduled for construction by the Army Engineers in Georgia, the Southwest, and Idaho.

The bill had met unexpected opposition in the House Rules Committee, where it was labeled "pork-barrel" legislation. Without the Committee's okay, the measure could not readily come to a vote in the house and might have been delaped until congress adjourned. But the Rules Committee had a change of heart and resumed consideration of the bill on Aug 3.

The Senate, which already has started committee hearings, is expected to approve the House measure, with additional projects, in short order.

Major multiple-purpose projects for which the bill authorizes funds include the following, listed with the proposed hydro power installations and estimated costs:

Albeni Falls Dam, Idaho, 42,600 kw, $31,070,000; Dardanelle Dam, Ark., 60,000 kw, $69,317,000; Eufaula Dam, Okla., 90,000 kw, $130,000,000; Hartwell Res., Ga-S. C., 177,000 kw, $69,000,000; Markham Ferry Dam, Okla., 72,000 kw, $32,750,000; Oologah Dam, Okla., 14,000 kw, $31,050,000; Table Rock Dam, Mo., 84,000 kw, $76,340,000.

As approved by the House Public Works Committee, the bill would authorize "projects" in the Engineers' comprehensive plan for development of the Savannah River Basin. The Engineers' plan includes 11 multi-purpose projects, only one of which, the Clark Hill Dam, has been authorized heretofore. Committee members said the all-inclusive wording of the bill would be changed to authorize only the Hartwell project at this time.

The Committee authorized total expenditures of $40 million for Hartwell, anticipating a reduction in the estimated construction cost of $69 million.

•

Kennedy Elected in Florida

J. Dillon Kennedy, a former executive in the Jacksonville, Fla., utilities department, is the city's new commissioner of utilities. He defeated George A. Pierce, commission chairman, in the recent election.

Utilities Serving 300,000 Customers

(Based on figures in 1949 McGraw Central Station Directory)

1.	Consolidated Edison Co, New York, N. Y.	2,645,330
2.	Pacific Gas & Electric Co, San Francisco, Calif.	1,208,579
3.	Public Service Electric & Gas Co, Newark, N. J.	1,122,097
4.	Commonwealth Edison Co, Chicago, Ill.	1,099,017
5.	Detroit Edison Co, Detroit, Mich.	899,354
6.	Philadelphia Electric Co, Philadelphia, Pa.	856,206
7.	Southern California Edison Co, Los Angeles, Calif.	853,988
8.	Los Angeles Dept of Water & Power, Los Angeles, Calif.	660,521
9.	Consumers Power Co, Jackson, Mich.	603,276
10.	Pennsylvania Power & Light Co, Allentown, Pa.	497,352
11.	Northern States Power Co, Minneapolis, Minn.	492,205
12.	Virginia Electric & Power Co, Richmond, Va.	469,090
13.	Boston Edison Co, Boston, Mass.	462,781
14.	Public Service Co of Northern Illinois, Chicago, Ill.	421,663
15.	Duke Power Co, Charlotte, N. C.	416,000
16.	Union Electric Co of Missouri, St. Louis, Mo.	412,740
17.	Cleveland Electric Illuminating Co, Cleveland, O.	400,573
18.	Duquesne Light Co, Pittsburgh, Pa.	399,388
19.	Georgia Power Co, Atlanta, Ga.	389,286
20.	Appalachian Electric Power Co, Roanoke, Va.	380,887
21.	Consolidated Gas, Electric Light & Power Co, Baltimore	379,721
22.	Ohio Power Co, Canton, O.	367,259
23.	New York State Electric & Gas Corp, Ithaca, N. Y.	343,583
24.	Buffalo Niagara Electric Corp, Buffalo, N. Y.	333,017
25.	Pennsylvania Electric Co, Johnstown, Pa.	323,700
26.	Alabama Power Co, Birmingham, Ala.	303,423
27.	Puget Sound Power & Light Co, Seattle, Wash.	303,112

Utility Purchases Power System from Railroad

British Columbia Electric Railway Co has purchased the power plant and distribution system of the Pacific Great Eastern Railway at Squamish, railhead town 40 miles from Vancouver at the head of Howe Sound.

Effective immediately, 300 residential commercial and power accounts in Squamish have been granted a 35% cut in rates.

BCER will effect the rate cut by supplying Squamish with power from its existing circuit at Britannia Beach, less than 10 miles away, where Bridge River power is now available. Previously Squamish electricity was supplied by a small hydro plant and an auxiliary steam plant, both operated by the railroad.

•

IBEW Loses Pay Raise

The Nebraska Court of Industrial Relations has dismissed the request of Local 739, International Brotherhood of Electrical Workers, AFL, for a 30% pay increase from the three hydroelectric districts in the state. The court held that wages paid by the districts are comparable for similar skills in their areas.

•

AG&E System to Build 3 Plants, Add 1,200,000 Hp

The American Gas & Electric Co will build three new power plants with a capacity of 1.2 million hp. This is about equal to the 1.25 million hp that the system now has under construction.

Two of the proposed plants will be owned by Appalachian Electric Power Co. The site for one of them is on the Kanawha River near Charleston, W. Va., and the other on New River not far from Glen Lyn, Va. The third plant, to be erected by the Ohio Power Co, will be located 12 miles south of McConnelsville, O.

All three plants will be similar in design and capacity. They will be built on the unit plan with two units per plant and each unit consisting of one 200,000-hp steam turbo-generator.

Appliance Dealers May Set Up Bad Debt Reserve

A new ruling of the Bureau of Internal Revenue will simplify bad debt accounting for electrical appliance dealers who sell on the installment plan. Until this ruling retailers were entitled to deduct from net income only the unrecovered cost of goods sold to defaulting customers.

This was a hardship for concerns using a cash receipts accounting basis, that is, those that considered only cash received as income, not sales for credit. These retailers couldn't always charge off a bad debt in the year in which the sale was made. Thus, they were kept from averaging some of a given year's losses with profits in computing taxes.

Hereafter, installment dealers will be permitted to set up bad debt reserves. This means that in computing taxes they will be entitled, at the end of the year in which the defaulted sales were made, to deduct "a reasonable amount" from net income for addition to the bad debt reserve.

BIR has declared that the amount of a "reasonable" deduction for a bad debt reserve should depend on:

1. The total cost of goods in default at the end of the taxable year.

2. The balance already in the bad debt reserve.

3. The taxpayer's past experience with bad debts.

In order to switch from a system of charging off proven losses to a bad debt reserve plan, dealers have to make formal application to the BIR at the time they file a return for the given year. And they must keep their bad debt reserves for installment sales separate from reserves against other types of sales.

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Distribution by City Voted

Springfield, Ore., will go into the electric power distribution business, financed by an $800,000 bond issue which voters of the city approved at a special election by a vote of 1,202 to 929. The municipality plans to construct lines to distribute Bonneville power. Springfield is now served by Montain States Power Co.

•

Anti-Strike Law Upheld

The Wisconsin Supreme Court has upheld the constitutionality of the state law prohibiting strikes, lockouts, or slowdowns involving public utilities.

CUSTOMER NO. 1 MILLION was connected July 28 to lines supplied by Tennessee Valley Authority energy. Representatives of the 144 municipal and rural cooperative systems distributing TVA power were present as well as representatives from the Rural Electrification Administration. The customer honored was Chester Williams, a farmer, residing near Humboldt, Tenn. He is a member of the Gibson County Electric Membership Corporation. Seen at the ceremony of starting the electric water pump are Floyd Jones, left, co-op manager; Dr Knox T. Hutchinson, Assistant Secretary of Agriculture; William J. Neal, Deputy REA Administrator; TVA Director James P. Pope; Williams; Cathy Johnson, his granddaughter; Mrs Williams; and S. R. Finley, superintendent, Chattanooga Electric Power Board

AEC, Western Electric Negotiate Sandia Contract

Atomic Energy Commission announced recently that it was negotiating a contract for operation of its Sandia laboratory with the Western Electric Co.

Western Electric and another American Telephone & Telegraph Co subsidiary, Bell Telephone Laboratories, will collaborate in managing the atomic weapons production center. The laboratory, located at the Sandia Air Base near Albuquerque, N. M., has been operated by the University of California, contractor for the nearby Los Alamos scientific laboratory. The university requested last winter that it be relieved of the Sandia management.

•

Virginia Candidate Asks Roanoke Valley Authority

Francis Pickens Miller, a Democratic candidate for governor of Virginia, has proposed establishment of a state commission to plan "for the long-range development of the Roanoke River Valley."

While most development should be left to private initiative and enterprise, he said, "a certain amount of overall policy which is beyond the scope of any private citizen or corporation is essential." Miller declared citizens of Tennessee have "benefited enormously" from development of the Tennessee Valley. "Why should we Virginians not receive comparable benefits?" he asked.

•

Utilities' Safety Contest Offers $6,000 in Bonds

Florida Power Corp and Georgia Power & Light Co are out to make operating departments more safety conscious. A total of $6,000 in U. S. Savings Bonds is being offered in a summer safety contest, which lasts through September.

More than 100 prizes will be drawn, with a $1,000 bond as top award. Each operating department employee with no lost-time accident will be eligible for the prize drawing. According to the degree of hazard, employees will be eligible for three, two, or one chance at drawing prizes.

The final value of the fund will be determined by the safety record. A lost-time accident will reduce the fund by $200, and a fatality will cut it by $2,000. Any employee who receives an EEI or National Safety Council award for resuscitation of a fellow employee will be given a $500 bond.

Santee-Cooper Gets OK to Duplicate Private Lines

South Carolina Public Service Authority (Santee-Cooper) has been given free reign to construct transmission lines duplicating those of private utilities. The South Carolina Supreme Court in an unanimous decision Aug 1 ruled that the three utilities operating in the state had no case to block the proposed project.

The utilities are South Carolina Electric & Gas Co. South Carolina Power Co. and Carolina Power & Light Co. They had asked an injunction to prevent Santee-Cooper from building and operating lines which would parallel those of the utilities. The utilities had won in the lower court last April.

Santee-Cooper proposes to use a $7,595,000 REA loan to the Central South Carolina Electric Power Cooperative to construct the lines. Central is made up of 14 distribution co-ops.

•

Senate Is Not Expected to Okay Olds This Year

Leland Olds has lost the first round of his fight to stay on the Federal Power Commission. The Senate will not confirm his nomination for another five-year term on FPC this year.

An unofficial check shows that opponents of the New Yorker have the votes to bottle his reappointment in committee, perhaps even to beat it on the Senate floor. At any rate the Senate Interstate Commerce Committee probably will not report on the nomination before Congress adjourns.

Olds, whose second FPC term expired June 22, conferred last week with President Truman. Their meeting led to unconfirmed reports that the President planned to withdraw Olds' nomination in favor of a less controversial candidate.

Only other alternatives for the President would be (1) to leave the FPC vacancy unfilled indefinitely or (2) to await the adjournment of Congress, then give Olds an interim appointment. The latter is the most likely possibility.

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Copco Increases Wages

A $184,000 wage increase has been adopted by California Oregon Power Co, fourth granted by the utility since the end of the war. The pay boost, approximately 4¾%, will go to all classifications of employees.

Planned Lighting Group Being Formed by EEI

A National Planned Lighting Promotion Committee, which will keep the electrical industry informed of new developments in Planned Lighting sales

J. S. SCHUCHERT

activities, is being formed by Edison Electric Institute. J. S. Schuchert, Duquesne Light Co. will head the new committee which will be organized on a regional basis. Personnel will be announced in a few weeks.

The committee will serve as an active clearing house for successful Planned Lighting promotional and educational ideas used in all markets by the various branches and trade associations of the electrical industry, including manufacturers, distributors, contractors, dealers, and utilities.

•

Detroit Edison Workers Spurn Union's Pay Pact

Voting 540 to 416, Detroit Edison employees, members of CIO's Utility Workers Union, rejected a proposed contract recently negotiated by company and union officials.

The pact provided that wage increases for Edison workers would be held up pending settlement of wage clauses in other Detroit industries. In the event of raises for other Detroit workers, Edison employees would have received increases on a sliding scale depending on the size of other raises.

Of 11,500 Edison employees, 4,700 are members of UWU, but only about 1,000 cast ballots. The next step under Michigan law is the taking of a strike vote among employees by the State Labor Mediation Board.

SEC RULINGS

Monongahela Power Co has been relieved of a restriction, imposed Aug 15, 1945, limiting its dividends on common stock to $800,000 a year (Release No. 9228).

Montana Power Co has been authorized to amend its charter so as to give cumulative voting rights to holders of common and preferred stock, to permit public sale of additional common without first offering it for subscription by stockholders, to require payments for such stock sales to be entered in the capital stock account, and to limit the right of directors to amend by-laws and raise quorum requirements of by-laws for stockholders' meetings from 40% to a majority vote (Release No. 9230).

Appalachian Electric Power Co has been authorized to borrow $18 million from banks for construction and repayment of a $4-million short-term note. The initial borrowing is to be $8 million at 2½% interest, and no future loan is to be secured at a higher rate. All loans are to be paid off by May 1, 1950 (Release No. 9234).

Consolidated Edison Co of New York's common will be given unlisted trading privileges by the Detroit Stock Exchange (Release No. 4279).

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Gets 2 Franchises

The Empire District Electric Co has been granted new 10-year franchises by Scammon and Weir City, Kan.

MEETINGS

American Institute of Electrical Engineers
Pacific General Meeting, Fairmont Hotel, San Francisco, Calif., August 23-26; Midwest General Meeting, Netherland Plaza Hotel, Cincinnati, Ohio, October 17-21.

Maryland Utilities Association
Fall Conference, Cavalier Hotel, Virginia Beach, Va., September 9-10.

Rocky Mountain Electrical League
Fall Convention, Stanley Hotel, Estes Park, Colo., September 11-14.

Instrument Society of America
Clinic on Maintenance of Industrial Instruments, Statler Hotel, St. Louis, Mo., September 9-12; Annual Convention, Municipal Auditorium, St. Louis, September 12-16.

Missouri Valley Electric Association
Rural Round-Table, President Hotel, Kansas City, Mo., September 14; Sales and Rural Conference, President Hotel, Kansas City, Mo. September 15-16; Accounting Conference, Robidoux Hotel, St. Joseph, Mo., October 20-21.

Public Utilities Association of the Virginias
Annual Meeting, Greenbrier Hotel, White Sulphur Springs, W. Va., September 16-17.

American Chemical Society
National Meeting, Hotel Traymore, Atlantic City, N. J. September 18-23.

Southeastern Electric Exchange
Engineering and Operating Section, Hotel Roanoke, Va., September 19-20; Accounting Section, Henry Grady Hotel, Atlanta, Ga., September 22-23; Personnel Administration Section, Henry Grady Hotel, Atlanta, Ga., September 23; Sales Conference, Biltmore Hotel, Atlanta, October 26-28.

Illuminating Engineering Society
National Technical Conference, French Lick Snrings Hotel, French Lick, Ind., September 19-23.

Pennsylvania Electric Association
Annual Meeting, Benjamin Franklin Hotel, Philadelphia, Pa., September 20-21; Transmission and Distribution Committee, Fort Ligonier Hotel, Ligonier, Pa., October 20-21.

Edison Electric Institute
Accident Prevention Committee, Robert Treat Hotel, Newark, N. J., September 22-23; Electrical Equipment Committee, Hotel Van Curler, Schenectady, N. Y., October 3-5; Meter and Service Committee, Leland Hotel, Springfield, Ill. October 3-5; Transmission and Distribution Committee, Lord Baltimore Hotel, Baltimore, Md., October 31-November 1.

Wisconsin Utilities Association
Annual Convention, Accounting Section, Dell View Hotel, Lake Delton, Wis.; September 22-23; Joint Annual Convention, Electric and Gas Sections, Schroeder Hotel, Milwaukee, November 21-23.

National Electronics Conference
Edgewater Beach Hotel, Chicago, Ill., September 26-28.

Indiana Electric Association
Annual Convention, French Lick Springs Hotel, French Lick, Ind., September 28-30.

National Television and Electrical Living Show
Second Annual Show, Sponsored by Chicago Electric Association, Chicago Coliseum, September 30-October 9

National Association of Corrosion Engineers
South Central Region, Adolphus Hotel, Dallas, Tex., October 3-4.

Association of Iron and Steel Engineers
Annual Convention (without exposition), William Penn Hotel, Pittsburgh, Pa., October 3-6.

Canadian Electrical Manufacturers Association
Annual Meeting, General Brook Hotel, Niagara Falls, Ont., Canada, October 4-6.

Iowa Utilities Association
Management Conference, Hotel Fort Des Moines, Des Moines, Iowa, October 10-11.

American Society for Testing Materials
First Pacific Area National Meeting, Fairmont Hotel, San Francisco, Calif., October 10-14.

American Standards Association
Annual Meeting, Waldorf-Astoria Hotel, New York, October 11-14.

International Association of Electrical Leagues
Annual Conference, Hotel Cleveland, Cleveland, Ohio, October 12-15.

Electrochemical Society
Fall Congress, La Salle Hotel, Chicago, Ill., October 12-15.

National Safety Council
National Safety Congress and Exposition, Stevens' Congress, Morrison, Sherman Hotels and the Palmer House, Chicago, Ill., October 24-28.

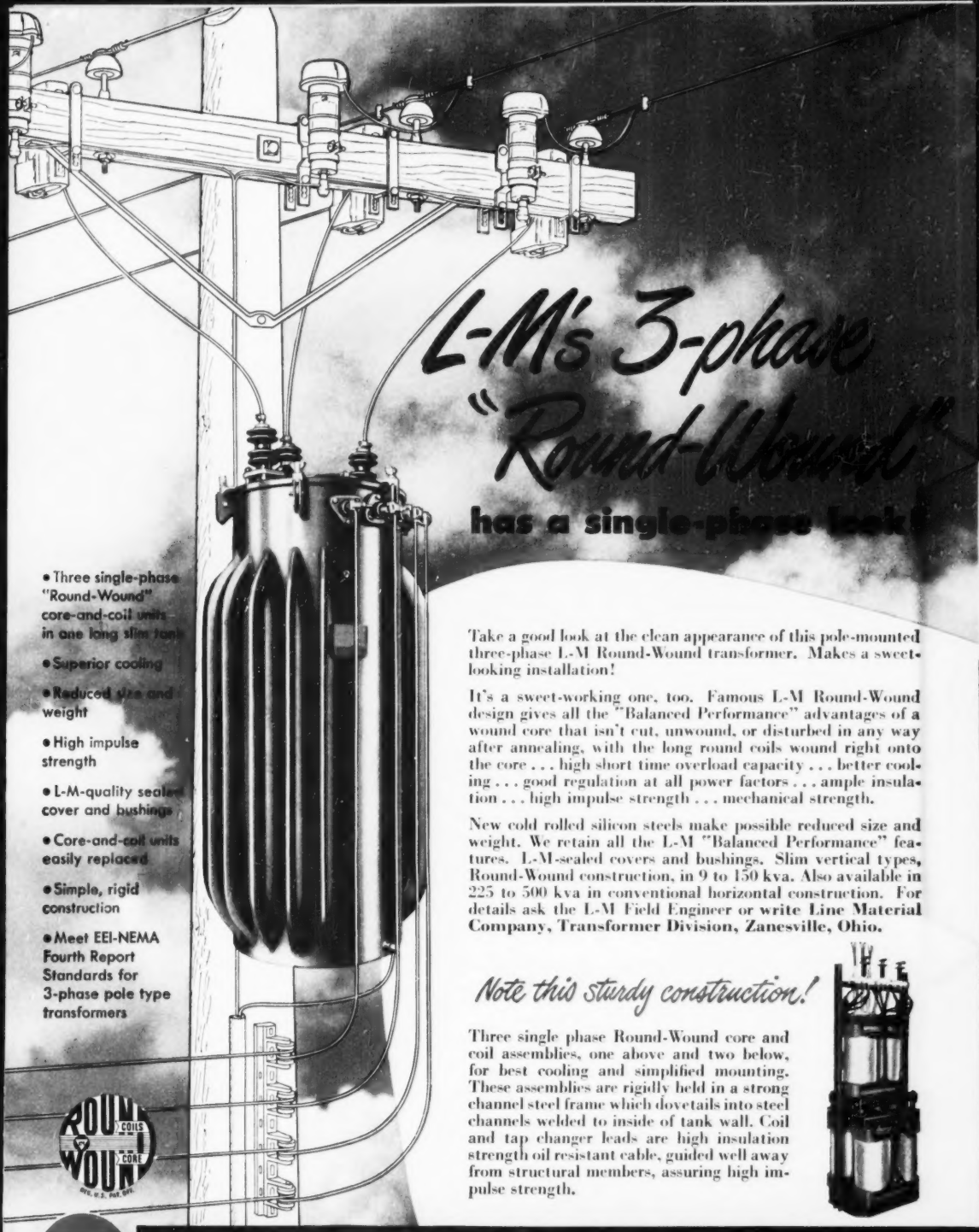
National Metal Trades Association
Annual Convention, Palmer House, Chicago, October 26-28.

National Electrical Contractors Association
Annual Convention, Rice Hotel, Houston, Tex., November 8-11.

National Electrical Manufacturers Association
Annual Meeting, Chalfonte-Haddon Hall, Atlantic City, N. J., November 14-18.

Refrigeration Equipment Manufacturers Association
All-Industry Refrigeration and Air Conditioning Exposition, Atlantic City Auditorium, Atlantic City, N. J., November 14-18.

No Additions this week.



L-M's 3-phase "Round-Wound" has a single-phase look!

- Three single-phase "Round-Wound" core-and-coil units in one long slim tank
- Superior cooling
- Reduced size and weight
- High impulse strength
- L-M-quality sealed cover and bushings
- Core-and-coil units easily replaced
- Simple, rigid construction
- Meet EEI-NEMA Fourth Report Standards for 3-phase pole type transformers

Take a good look at the clean appearance of this pole-mounted three-phase L-M Round-Wound transformer. Makes a sweet-looking installation!

It's a sweet-working one, too. Famous L-M Round-Wound design gives all the "Balanced Performance" advantages of a wound core that isn't cut, unwound, or disturbed in any way after annealing, with the long round coils wound right onto the core . . . high short time overload capacity . . . better cooling . . . good regulation at all power factors . . . ample insulation . . . high impulse strength . . . mechanical strength.

New cold rolled silicon steels make possible reduced size and weight. We retain all the L-M "Balanced Performance" features. L-M-sealed covers and bushings. Slim vertical types, Round-Wound construction, in 9 to 150 kva. Also available in 225 to 500 kva in conventional horizontal construction. For details ask the L-M Field Engineer or write **Line Material Company, Transformer Division, Zanesville, Ohio.**

Note this sturdy construction!

Three single phase Round-Wound core and coil assemblies, one above and two below, for best cooling and simplified mounting. These assemblies are rigidly held in a strong channel steel frame which dovetails into steel channels welded to inside of tank wall. Coil and tap changer leads are high insulation strength oil resistant cable, guided well away from structural members, assuring high impulse strength.

ROUND WOUND COILS CORE

LM

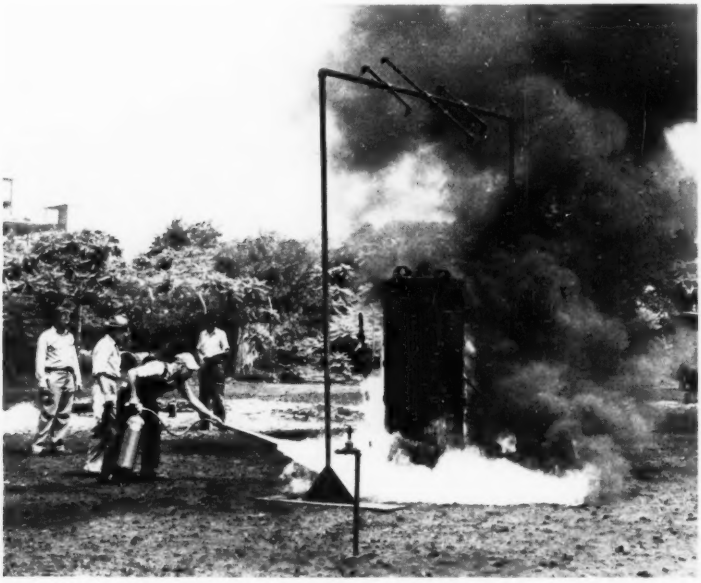
LINE MATERIAL Transformers

Complete Coordinated Equipment for All Distribution Requirements

FIRE FIGHTING S

INSTRUCTOR at Fire School of Consolidated Edison Co of New York lectures on anti-freeze-type extinguishers. Cut-away models are used. The school was established at Astoria gas plant in 1947

STUDENT uses a carbon tetrachloride exti Before doing his laboratory exercise student

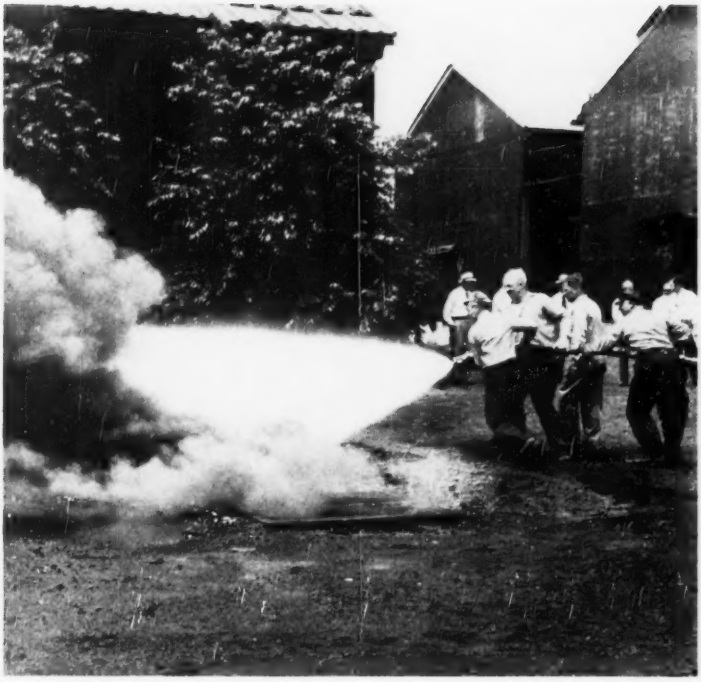


FIRE resulting from ruptured cooling coil on a 75-kva transformer is attacked by a 15-lb CO_2 extinguisher. Dry chemical extinguishers are also used in fighting these rather common blazes

SUBSTATION oil-circuit breaker fire is sim vaporizing liquid-type extinguisher is being

HOOL

on a Class B (oil, paints, grease) fire.
ensive lecture course on use of equipment



CREW USES high velocity water fog nozzle to extinguish raging fuel oil pit fire. To make the training practical, fires must be as realistic as possible. Area of pit top is about 225 sq ft

this specially built compartment. A 1-gal
Men wear masks as protection against gas

GRID, suspended 9 ft in the air, is attached to a line energized by 27,000 v to ground. Crew uses high velocity fog nozzle to spray grid. Familiarity with equipment gives men confidence

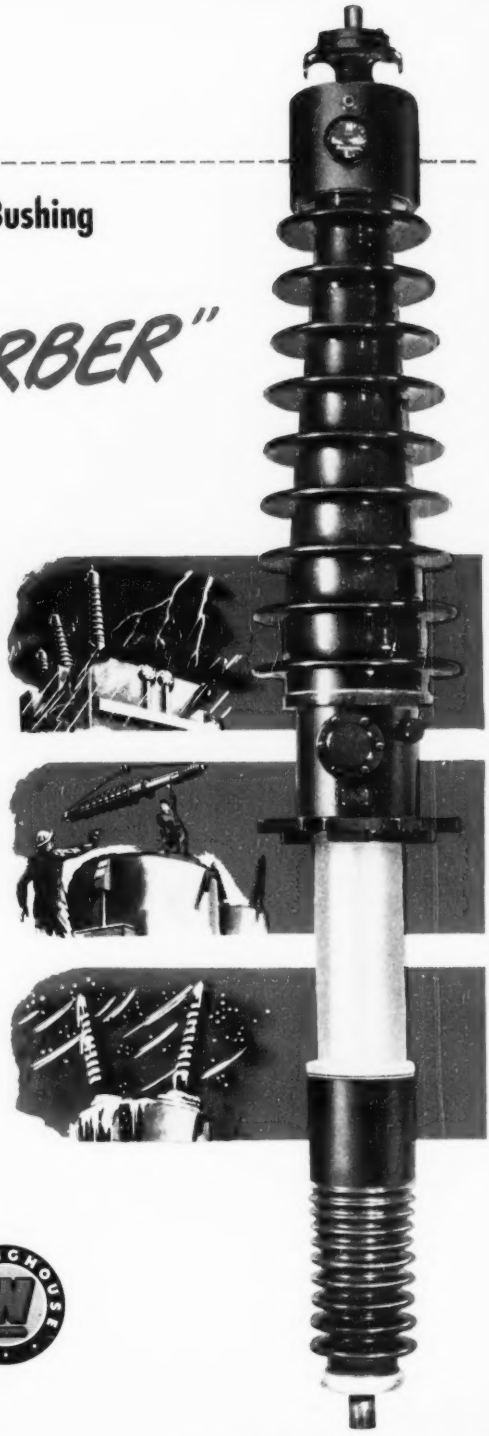
YOU CAN BE **SURE**.. IF IT'S

Westinghouse

Type "O" Condenser Bushing

3 WAY "SHOCK ABSORBER"

FOR POWER CIRCUIT BREAKERS AND POWER TRANSFORMERS



ELECTRICALLY . . . Insulation of the highest quality is provided in the condenser, which is completely impregnated with degassed oil, hermetically-sealed and cushioned with dry nitrogen to insure continued low internal loss and radio-influence voltage.

MECHANICALLY . . . Springs in the cap keep pressure on the gaskets at all times. The porcelains are one piece. Bushing construction is strong mechanically.

THERMALLY . . . Because of its excellent design—electrically and mechanically—the Type "O" Bushing is not affected by heat or cold. Internal losses do not increase appreciably over the temperature ranges encountered in transformers or circuit breakers.

Greater electrical, mechanical and thermal strength add up to increased safety for your system. All the facts on the Type "O" Bushing are available from your nearby Westinghouse representative. Ask him for Booklet B-3462, or write Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pennsylvania. Also ask for information about circuit breakers and transformers equipped with Type "O" Bushings. J-60711

Westinghouse

POWER CIRCUIT BREAKERS
POWER TRANSFORMERS

Output Highest in Months; 3.1% Over 1948 Figure

Output made a big increase last week (ended July 30). The total was 5,518,485,000 kwhr, the highest it has been since last March. Furthermore this was 3.1% higher than the 5,352,439 kwhr recorded for the corresponding week of 1948. For the previous week this year the total had been only 5,461,665,000 kwhr.

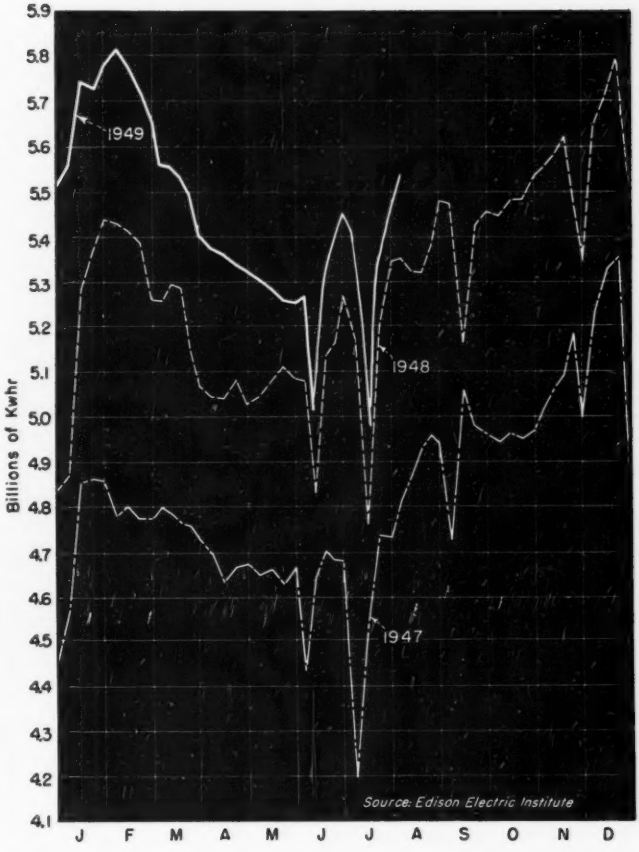
The reasons for the sharp increase are not yet known. It may have been due to the heat wave that swept much of the northern part of the nation. It may also mean that men are going back to work. In relation to the corresponding week a year ago, all sections of the United States were in the plus column but the Middle Atlantic. Here the decrease was reported as being less than 0.1%

Weekly Output, Millions Kwhr

1949	1948	1947
July 30 5,518	July 31 5,352	Aug. 2 4,806
July 23 5,462	July 24 5,342	July 26 4,730
July 16 5,342	July 17 5,197	July 19 4,732
July 9 4,982	July 10 4,760	July 12 4,531
July 2 5,410	July 3 5,166	July 5 4,190
June 25 5,466	June 26 5,257	June 28 4,675
June 18 5,373	June 19 5,159	June 21 4,676
June 11 5,300	June 12 5,132	June 14 4,702
June 4 5,018	June 5 4,845	June 7 4,635
May 28 5,270	May 29 5,076	May 31 4,429
May 21 5,255	May 22 5,085	May 24 4,663
May 14 5,257	May 15 5,109	May 17 4,616

Percent Change from Previous Year

	July 30	July 23	July 16
New England	+ 3.1	+ 2.5	+ 5.0
Mid-Atlantic	— 0.0	— 0.8	— 1.9
Central Industrial	+ 0.3	— 2.2	— 3.0
West Central	+ 4.3	+ 3.0	+ 1.7
Southeast	+ 4.7	+ 1.7	+ 5.0
South Central	+ 5.1	+ 8.4	+13.2
Rocky Mountain	+10.1	+15.7	+12.8
Pacific Coast	+ 6.7	+ 7.4	+ 8.2
Total United States	+ 3.1	+ 2.2	+ 2.8



Electric-Heated Homes Near 5,000 in Chattanooga

The Electric Power Board of Chattanooga expects to have connected to its lines by next January a total of over 5,000 electrically heated homes and housing units, according to States R. Finley, general superintendent. The system now has over 4,600 homes on its line. The total will represent about 10% of total homes in the area served.

At present the 60-unit Glenwood Park development of 15 two-story buildings is the first of a group of 300 units in which electric house heating will be installed. They will be all-electric, with an automatic electric laundry in the basement of each building. Another development that will be all-electric and have electric house heating is the Montview Apartments, a project of nine buildings with 60 housing units.

Plans are now being discussed to heat electrically the Washington Apartments, Inc., six-building Negro project of 96 apartment units.

Finley said the system's experience with electrically heating of apartment projects, one year with two projects of two buildings each and a total of 32 apartments, has been good. Two buildings of eight apartments each are fed from one 75-kva transformer with excellent load factor.

•

Utility Loses Line Plea

After eight years of litigation, the Baltimore County Board of Zoning Appeals has finally denied the Consolidated Gas, Electric Light & Power Co of Baltimore permission to erect a tower line through Green Spring Valley. The way was left open for the utility to erect a pole line. Residents of the valley had bitterly opposed the proposed line. They sought to force the utility to put the line underground.

B. C. Electric Will Build $7 Million Hydro Project

A new 7-million hydro electric project to further supplement power supply of British Columbia's Lower Mainland is planned by the British Columbia Co Electric at Jones (Wahleach) Lake in the Fraser Valley, some 80 miles from Vancouver, B. C.

Preliminary planning is now going ahead for the development, which would provide future peaking capacity for the company's existing and planned generating facilities at Bridge River and points in the Lower Mainland. Steam capacity is considered too expensive.

Plans call for a single unit with a capability of 70,000 hp. Three miles of penstocks would carry the water to the turbine. With a 2,000-ft head, the project would rank as one of the highest of the world's "high-head" developments.

IN THE INDUSTRY

FISCHER BLACK

AUDIT AND ANALYSIS of utility costs to assure lowest available rates to commercial and industrial users are the services which a new service organization expects to supply. Information on this concern was obtained from Paul S. Lewis, president of Power Cost Service Corp of New York.

According to Mr Lewis, Power Cost Service Corp of New York and Power Cost Service Corp of Illinois, affiliated with American Business Institute, Inc, of Washington, D. C., are set up "to give utility customers a guide to the maze of special rate schedules and protection against incorrect billing."

Claimed as the basis for the new service is the fact that "public utilities are not legally responsible for seeing that each customer gets the lowest rate available to him. A substantial amount of electric energy is sold under special contracts. Since many states do not permit such contracts but insist that every agreement be filed as a schedule, Power Cost Service Corp will see if a client meeting the same conditions is entitled to the same rate."

Federal Power Commission files show about 3,000 electric utility rate schedules under which no more than three customers are served. Industrial and commercial users thus might have a wide choice of rates, but few have the know-how either to verify the correctness of the rates being charged or to find the lowest end-cost rate for a specific operation, according to Mr Lewis.

That is the gap American Business Institute, incorporated in March under New York laws, seeks to fill. Here's how its officers say it works: "A businessman or industrialist wishing to investigate his utility costs signs a contract with one of the Power Service corporations. American Business Institute's rate experts, auditors, accountants, engineers, and attorneys then go to work. They audit and analyze past-paid and current electric, gas, steam, and water bills and study all applicable utility contracts, schedules, rates, and riders. Four months later the client gets a detailed report offering suggestions that may result in reduced costs, savings, or recovery of previous over-payments. The study is designed to uncover over-charges, incorrect billing methods, erroneous interpretation of contracts, improper metering methods, and misapplication of rate schedules as well as to find the lowest-cost rate." Mr Lewis says that obviously no guarantees of savings or recoveries can be made.

American Business Institute makes no contracts of its own: all are negotiated by the sales organizations. Officers of Power Cost Service Corp of New York are Mr Lewis, president, and R. Clifford Fowler, vice-president; of Power Cost Service Corp of Illinois, Gaylor Morse, president, and C. L. Mortensen, vice-president. Negotiations are now in progress for additional sales offices—one to cover the Southern states, with headquarters in Houston, Tex., and a Western one, with Los Angeles or San Francisco offices.

Charles C. Starnes, president of American Business Institute, is former owner of Rateonics Service, a Dallas, Tex. firm engaged in utility cost audit and analysis. He has a background in accounting and auditing. Mr Lewis and ABI vice-presidents, Mortensen and J. M. Stovall, Jr., were formerly associated with Rateonics.

TECHNICAL NOTES

ARCHER E. KNOWLTON

Extracted from Midwest Power Conference Paper by Norman Hilberry, Deputy Director, Argonne National Laboratory

A boiler is a heat-insulated device in which the *atomic* chain reaction can be maintained because it is designed to conserve the thermal energy produced.

A nuclear reactor is a neutron-insulated device in which the *nuclear* chain reaction can be maintained if enough of the released neutrons are prevented from escaping.

Control of a nuclear reactor is essentially a matter of controlling the number of neutrons released and retained.

Ash and flue gases from a boiler are comparatively innocuous; waste products of a nuclear reactor are highly radioactive and far from innocuous but not necessarily unsalable.

Fuel is burned in a boiler and that is the end of it; nuclear "fuel" that is "burned" in a reactor can produce more fissionable material than is fed into it—the "fuel" pile can grow rather than shrink.

Structural materials for conventional boilers are competently available; no one knows what materials can long survive the bombardment of fast neutrons, gamma rays, beta rays and what-not emitted by a nuclear cauldron.

Transfer of heat from the fuel to the water and steam in a boiler is a well-solved technique; transfer to the coolant and absorption medium in a nuclear reactor involves many unsolved aspects.

How soon nuclear power?—that is primarily a matter of the expert man-hours and research breaks in connection with the tough and novel problems associated with a nuclear reactor, far beyond those which have faced commercial boiler designers.

MANUFACTURERS and MARKETS

Electric Products Builds Homopolar Generator

Electric Products Co, Cleveland, using the designs and patents of James Caputo, Youngstown electrical consultant and engineer, has produced a vertical homopolar generator not built along accepted lines.

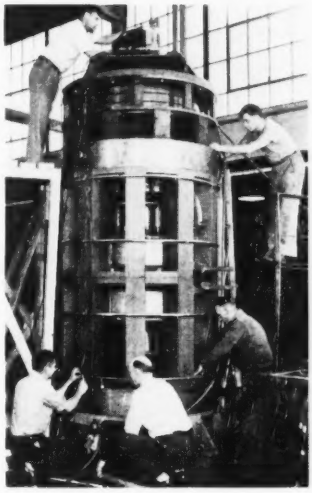
The generator, 13 ft 8 in. high, about 5 ft in diameter, and weighing 30 tons, is powered by a 600-hp motor located on top. It produces 21,000 amp at 18.7 v at 1,200 rpm. By slightly lengthening the collector bars it could be made to deliver 100,000 amp.

Carnegie Institute of Technology will use the machine at its Saxonburg, Pa., nuclear research center. It will be used to excite an 1,100-ton magnet.

The 160 brushes in the generator are water-cooled. The armature is of solid beryllium copper and constitutes a collector ring. Direction of the magnetic field flux is opposite on the two terminals so that there is no tendency for interaction between the two magnetic circuits.

The entire rotating system is carried on two spherical roller thrust bearings, one just below the motor mount on top of the machine. The other is under the magnetic disc at the bottom.

To minimize the possibility of the bottom bearings becoming miniature generators themselves when the machine is in operation, the bearing housing is made of a non-magnetic material (an aluminum alloy) to keep field flux from straying into the bearings. Supplementary air gaps were built in to collect such strays.



HOMOPOLAR generator is completed in shops of Electric Products Co, Cleveland

Issue Color Transparency Standards on Mica Set Up

Realizing the urgent need for universal standardization acceptable to all concerned the American Society for Testing Materials Committee D-9 on electrical insulating materials, in cooperation with the Mica Fabricators' Association of New York, has established visual photographic color transparencies for the classification of natural muscovite block mica used in American industry. The standards consist of one 8x10-in. original color transparency for each classification of mica.

These color transparencies illustrate the maximum, nominal, and minimum imperfections allowed in each case. The ten classifications selected as being representative of the mica used by the trade are clear, clear and slightly stained, fair stained, good stained, ruby stained—A quality, ruby stained—B quality, speckled, heavy stained, black spotted, black stained. These classifications apply to mica between thicknesses of 0.007 to 0.020 in. for qualities, irrespective of basic color.

The establishment of these standards has removed for the first time in history of the mica industry the classification of mica block from the category of verbal description and personal judgment, and their use will prove to be economically advantageous in buying and selling mica.

For viewing these standards and comparing them with samples to be classified, a viewing box with ground glass surface is used as the source of transmitted light, and a 15-watt fluorescent light is used to provide the reflected light.

For a set of the ten color transparencies, packed in light-tight envelopes, conveniently boxed with a copy of the ASTM specifications for Natural Muscovite Mica Based on Visual Quality (D 351), the price of $150 has been established. The viewing box and light may be purchased separately at an additional cost of approximately $45 and $15, respectively. Orders may be made out to the American Society for Testing Materials, 1916 Race St. Philadelphia 3, Pa.

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Westinghouse Profits Up, Sales Down in First Half

Net income up slightly, net sales down slightly, unfilled orders down over 11%, and new orders down 12%. That is the summary of activities of Westinghouse Electric Corp for the first six months of the year.

Net income was $28,409,961, a gain of $968,861 over the $27,441,100 reported for the first six months of last year. The 1949 net income was equal to a return of 6.1% on net sales billed. After deducting preferred dividends, the net income was equal to $2.10 a share on 13,016,794 shares of common stock outstanding. Last year the figures were 5.7% and $2.02.

Net sales of $468,073,982 represented a decline of 3% from the $482,882,779 billed in the corresponding period of 1948.

New orders dropped 12% from $532,706,798 to $467,122,984. The backlog of unfilled orders was $602,820,861, compared with $678,925,183 at the end of June, 1948.

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Manufacturers Make New Sales Assignments

Electrical manufacturing companies have recently made the following appointments to their sales staffs:

General Electric Lamp Department has established a new sales district and appointed two district sales managers. The new district, to be known as the south central sales district, will have its headquarters in Memphis, Tenn. It involves all of Mississippi, southeastern Louisiana, eastern Arkansas, and western Tennessee. Named to head the new sales district is George V. Ellis, a member of the sales

organization of the southeastern sales district, with headquarters at Atlanta, Ga. Mr. Ellis is stationed at Birmingham, Ala. Also appointed to a sales district managership is Robert V. Corning, who heads Ohio Valley sales district, with offices in Cincinnati. Mr. Corning has been transferred from the Lamp Department's general sales division at Nela Park.

Pyrene Manufacturing Co, Newark, N. J., has named Neal Thomason sales representative in Oklahoma, Kansas, and 10 counties of Missouri, with headquarters in Oklahoma City. James R. Mock has been appointed sales representative in North Carolina and part of Virginia, with headquarters in Winston-Salem, N. C. Edward L. Groff, industrial engineer of Greenville, S. C., has been made sales representative in four Southern states. Operating out of Greenville, Mr Groff will cover South Carolina, eastern Tennessee and parts of North Carolina and Georgia.

Pacific Electric Manufacturing Corp has appointed the Electrical Equipment Co, 14547 Madison Ave, Cleveland, Ohio as Ohio sales and service representative.

Frink Corp, Long Island City N. Y., has appointed Lon E. Russell sales representative for Georgia, Alabama, and Florida, with headquarters in the Chamber of Commerce Bldg., Miami.

•

Sylvania Income Drops Sharply in 2nd Quarter

Sylvania Electric Products, Inc, has reported its consolidated net income for the second quarter of 1949 to be $378,252, equal to 19¢ per share of common after deducting dividends of $1 per share on preferred. For the second quarter of 1948, the figures were $948,565 and 84¢ a share.

Second quarter net sales of $22,556,653 compared with sales of $23,662,547 for the second quarter of 1948. Sales for the first half of 1949 were $49,665,548, up 3% over the $48,210,076 in the corresponding period of 1948.

MANUFACTURING BRIEFS

"The television industry may well produce and sell 1½ million television receivers during the final six months of 1949," Allan B. Mills, general sales manager of the RCA Victor Home Instrument Department, told the National Appliance and Radio Dealers Association recently in Chicago. Mr. Mills estimated that by the early 1950's television will represent greater dollar volume than any major electrical appliance.

U. S. Rubber Co has moved its Chicago branch offices from 440 W. Washington St to the Merchandise Mart Building.

NEW ELECTRICAL CONSTRUCTION

A weekly selection of U. S. electrical construction projects announced by private and government utility systems involving more than $70,000. Also listed are major industrial and construction jobs where electrical work is indicated or implied

UTILITIES

Proposed Construction

Arizona-Nevada — Bureau Reclamation, Dpt. Interior, Aviola Bldg., P. O. Box 392, Phoenix, 34,500 volt Yuma substation at Yuma, on lots 18, 19 and 20 on 11 Ave., south of 10 St., Davis Dam Proj., Spec. 2739. L. N. McClellan, ch. engr., Bldg. 1-A, Denver Federal Center, Denver, Colo.

Arkansas—North Arkansas Electric Cooperative, Inc., Salem, 344.5 mi. rural distr. lines, Fulton Co., **$344,000.** Allen & Haskall, 65 McCall Pl., Memphis, 3, Tenn., engrs.

California—Bureau Reclamation, Dpt. Interior, Box 25½ Sacramento, transmission lines, for Elverta and Perkins Line, San Joaquin Co.

Mass., Taunton — Taunton Municipal Lighting Dpt., C. A. Oliver, mgr., Taunton, generating facilities, incl. 7,500 kw steam turbine, connecting generator and exciter cap. 12,500 kva Volate, 13,800 and 10,000 sq. ft. surface condensers and auxiliaries.

Mississippi — Central Electric Power Assn., Carthage, 300 mi. rural distr. lines sys. improvs., Leake Co., **$673,000.** Bowman & Bowman, Greenwood, consult. engrs.

Nebraska—Southwest Electric Membership Assn, Palisade, 290 mi. rural distr. lines, Chase, Dundy, Hayes and Hitchcock Counties, **$325,000.** Flora Eng. Co., 501 Jackson St., Topeka, Kans., consult. engrs.

Oregon—Bonneville Power Admin., 729 N.E. Oregon St., Portland, Zone 8, clearing right of way 13.3 mi. for Willamette Forest sect. of Maupin-Detroit 230 kv. transmission line. Inv. 4740. Plans deposit $5.

South Carolina—South Carolina Public Service Auth., Moncks Corner, construct spillway generating station, furnish materials, excavate for and construct concrete substructure and superstructure for 2,500 kva. hydro-electric generating unit at existing spillway, excavate tail canal approx. 450 ft. long and rip-rap banks adjacent to powerhouse structure; erect hydraulic turbine furnished by others which will drive 2,500 kva generator; construct penstock supports and erect penstock and tainter valve; install step-up transformer, switchgear and accessories; construct approx. 200 ft. entrance roadway. Santee-Cooper Proj. Plans deposit $25.

S. C., Dupont—at office Capt. W. T. Eckberg, Officer Charge of Construction, P. O. Box 325, Naval Base, Charleston, radio operation bldg. incl. utilities, service, pump house and equip, electric sub-station, water and sewage plant at Communications Stations, NOY 18087, Spec. No. 21920. Plans deposit $15.

Texas—Lower Colorado River, c/o Max Starcke, gen. mgr., P. O. Box 1153, Austin, Marble Falls Dam Proj., hydro-electric flood prevention, incl. concrete spillway, concrete power house, incl. 73,000 cu. yds. concrete, 8 steel spillway gates, 2 intake tainter gates, rock fdns. 2 mi. below Marble Falls, **$7,500,000;** hydro-electric flood prevention dam, incl. concrete spillway, concrete powerhouse, gravity and reinforced walls, earth dam and appurtenances, incl. 130,000 cu. yds. concrete, 900,000 cu. yds. earth embankment, rip rap; 9 tainter gates, 2 tainter intake gates on Colorado River, **$8,500,000.** Plans deposit $30 each.

Washington—Bureau Reclamation, Dpt. Interior, Bldg. 1-A, Denver Federal Center, Denver, Colo., motor-generator exciter set for Units L-1 to L-6, Grand Coulee power Plant, Columbia Basin Proj., Spec. 2712; furnish, and del. f.o.b. cars at shipping point or f.o.b. at Odair, Wash., selector-type switch for Grand Coulee 230-kilovolt right switchyard, Columbia Basin Proj., Spec. 2742. L. N. McClellan, ch. engr.

Low Bidders & Contracts Awarded

Ill., Lincoln—State of Illinois, Springfield, July 19, general contract power plant, Lincoln State School and Colony, from R. B. Evans Constr. Co., 441 N. Walnut St., Springfield, **$411,348.**

Iowa—South East Iowa Electric Co-operative, Assn., Mt. Pleasant, 259.5 mi. rural distr. lines, Henry Co., to Hoak Constr. Co., 621 63 St, Des Moines, Labor $34,903, materials, $260,00. Total, **$344,903.** Stanley Engrg. Co., Hershey Bldg., Muscatine, engrs.

Kansas—Western Co-operative, Electric Assn., Wakeeney, 299 mi. rural distr. lines, Trego Co., to E. L. Niehaus, Lamar, Mo., labor, $67,453, materials, $299,000. Total **$366,453.**

Missouri—Three Rivers Electric Co-operative, Steve A. Schauwecker, mgr., Linn, July 19, 181.25 mi. rural distr. lines, Miller, Cole, Osage, Gasconade and Franklin Counties, Sect 6, from Griffin Electric Co., Ownesboro, Ky., **$308,012.**

Montana — Lower Yellowstone Rural Electric Assoc., Inc., Sidney, 392.7 mi. rural distr. lines, Richland Co. to Williston Constr. Co., Williston, labor, $125,433; materials, $392,000. Total, **$517,433.** Bids 5/4.

Oklahoma—Peoples Electric Co-operative, Ada, 340.19 mi. rural distr. lines, Pontotoc Co. to Crews & Ward Constr. Co., Columbia, Miss., labor, $114,573, materials, $340,000. Total **$454,572.** Archer & Handley, P. O. Box 449, Ada, engr.

Wash., Seattle — City, County, City Bldg., construct bus and equipment foundations, equip. installation and incidental work, at Diablo dam and intake for Diablo switching station and power plant, from Utility Constr. Co., Puget Sound Bank Bldg., Tacoma, **$181,250.** E. R. Hoffman, City Light Bldg., city light supt.

INDUSTRIAL, COMMERCIAL & PUBLIC BUILDINGS

Proposed Construction

Md., Baltimore—Broadview Realty Inc., 2301 Maryland Ave., plans by Palmer, Fisher, Williams & Nes, 1020 St. Paul St., 13 story, bsmnt., 54x130x393 ft. apartment house, 453 families, 135 W. 39 St., **$2,500,000.**

N. J., Millburn—Prudential Insurance, 763 Broad St., Newark, community shopping center on 100 acre site along Morris Turnpike, **$3,000,000.**

O., Cincinnati — Hamilton Co. Bldg. Comm., Courthouse, county hospital (county home), $4,331,000. Samuel Hannaford & Sons, 1024 Dixie Terminal Bldg., Frederick Garber, Union Central Bldg., archts., Wm. E. Bodenstein & W. F. Schuster, 2nd Natl. Bank Bldg., 9 and Main Sts., engrs.

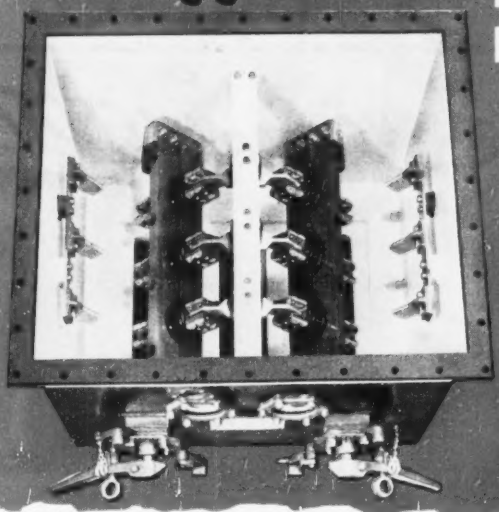
Pa., Pittsburgh—R. W. Paul, Dravosburg, plans by Phillip Friedman, 121 S. Negley Ave., 20 six story bsmnt., 40x125 ft. brick and tile apartments in Scott Twp. near here, **$10,000,000.**

Tex., LaPorte— E. I. du Pont deNemours & Co., LaPorte, chemical plant improvs. and expans, **$12,500,000.**

Low Bidders & Contracts Awarded

Calif., Brea—Union Oil Co. of California, 617 W. 7 St., Los Angeles, 1 story, recln.-con. research plant, incl. 12 bldgs., admin., research laboratories, engineering laboratories, etc., to P. J. Walker, 3900 Whiteside Ave., Los Angeles, Approx. **$5,000,000.** Austin, Field & Fry, 23 11 W. 3 St., Los Angeles, archts.

INSIDE WHITE FOR EASY INSPECTION OF LINK POSITIONS



No Seals to Break . . .

No Covers to Remove . . .

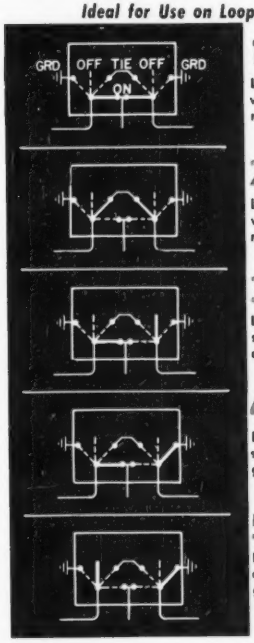
Unretouched photograph of oil switch with cover removed shows pure white reflective coating of inside walls.

G&W "GRAL" LOAD BREAK OIL SWITCHES

7500 VOLTS — 15000 VOLTS

ONLY 2 SETS OF SWITCHING LINKS

Ideal for Use on Loop Systems



1. Loop feeds through with branch connected.
2. Loop feeds through with branch disconnected.
3. Load fed from either side with other side disconnected.
4. Load fed from either side with other side grounded.
5. Both sides of loop disconnected (or grounded).

THERE ARE SOUND REASONS why many utilities and industrials select G&W Type "GRAL" Oil Switches as standard equipment. One of them is the white coating of the tank interior which permits "seeing" the position of the switching links by using a flashlight and looking through the windows in front. Visual inspection of link position is often a required safety precaution — it makes certain that a circuit has been properly cleared before working on it.

Type "GRAL" Oil Switches are ideal sectionalizers for loop systems. They greatly reduce the time required for restoring service in case of trouble, or for isolating or grounding a circuit to make changes. These switches with links and contacts fully enclosed and oil immersed are especially suitable for underground and vault installations and also for overhead applications where corrosion problems exist. They can be relied upon to stay oil and water TIGHT under the most severe conditions.

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YOU CAN BE **SURE**.. IF IT'S

Westinghouse

"We saved 750 service calls with 'CSP'"

Nowhere does the built-in thermal protection of the "CSP"* Completely Self-Protecting transformer offer more conclusive evidence than this statement of a midwestern operator:

> A total of 2,641 distribution transformers are in service; 1,967 are Westinghouse "CSP" units, 674 are conventional types.
>
> From July 31, 1941, through December 31, 1947, the utility made 303 service trips for transformer outages caused by thermal conditions:
>
> 271 were made to conventional transformers; 32 were made to "CSP" units.

The record becomes more striking when the figures are reduced to a unit basis. Conventional transformers required one service call for approximately every two units. "CSP" transformers required one service call for every 60 units! If the "CSP" transformers had shown the same rate of outages, there would have been 750 more calls over the six-year period.

One sure fact stands out: the built-in thermal protection of "CSP" transformers cuts service costs. Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pa.

J-70524

**Trademark—Reg. U. S. Pat. Off.*

PROVE IT YOURSELF with this new book that lets you compare Completely Self-Protecting transformers with conventional types—using your own figures for original investment, installation maintenance, depreciation and interest. Ask for B-4247, "Transformer Costs and Their Relation to Profits".

Call the Westinghouse Salesman

Westinghouse "CSP"
TRANSFORMERS
SINGLE PHASE THREE PHASE BANKED SECONDARY

12 new Elliott FABRI-STEEL MOTORS

FABRI-STEEL FEATURES

- The enduring strength of steel—
- Uniform air gap for maintained performance—
- Split-sleeve bearings for easy access—
- Dynamically balanced rotor for vibrationless operation—
- Rotor removable in most cases without taking off bearing bracket at coupling end of motor.

bring good luck to any plant. This group is ready for shipment to a prominent mid-western utility for driving ball mills and forced draft fans. All these motors are 250-hp.

The good luck is in the assurance of continued operation in the all-welded steel construction of these Elliott Fabri-Steel motors. Cover, end plates, bearing brackets are all of heavy plate, internally braced by welded members, which are also welded to the outside of stator laminations while laminations are stacked on a mandrel under heavy pressure. It is difficult to conceive of more solid and enduring construction.

Exceptionally easy maintenance, too. Split sleeve bearings come out for relining in a minor operation. No need to dismantle the motor.

•

150 to 2000 hp—four to fourteen poles—drip-proof, splash-proof, enclosed separately (forced) ventilated, enclosed self-(pipe or base) ventilated. Write for bulletin PB-7000-2.

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NEWS ABOUT PEOPLE

Robert C. Blatt Joins Electrical World Staff

Robert C. Blatt took up his duties as an associate editor of ELECTRICAL WORLD Aug. 1. He has had a broad background in both engineering and technical writing.

After receiving his electrical engineering degree from George Washington University in 1925, Blatt took the illumination course at the Edison Lamp Works, Harrison, N. J. His first position was with the Potomac Electric Power Co as an illuminating engineer.

ROBERT C. BLATT

In 1928 he became electrical engineer for the Municipal Architect of the District of Columbia. In the next 13 years Blatt gained considerable experience in the electrical contracting and communications fields.

When America began to arm in January 1941, he was made chief airport lighting engineer for the Civil Aeronautics Administration. In this position he travelled extensively, often flying his own plane, to test the effectiveness of lighting installations at airports.

Blatt gained his first editorial experience in March, 1944, when he became technical editor for *Aviation Maintenance & Operations*. Some three years later he became editor of *Airports & Air Carriers*. Since then he has written many technical magazine articles.

He is a member of the National Society of Professional Engineers and the American Institute of Electrical Engineers. As a member of the Illuminating Engineering Society, he has been active on the Committee on Aviation Lighting and served one term as chairman of the Baltimore-Washington chapter.

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Toledo Edison Advances C. E. Ide to Presidency

(See Front Cover)

Charles E. Ide, executive vice-president and general manager of Toledo Edison Co, has been made president. He succeeds Carroll L. Proctor who becomes chairman of the board.

A. C. Van Driesen, treasurer, and Dr. S. K. Mahon, assistant to the president, have retired from their positions and as directors of the company. William A. Marshall, secretary, will assume the additional duties of treasurer.

Ide, a graduate of Iowa State College, worked for several Cities Service companies after joining the Denver Gas & Electric Co in 1914. He became general manager in 1927 of a group of properties that later were merged into the East Tennessee Light & Power Co. He was president of that firm before coming to Toledo in 1945.

Proctor will devote his time to planning and general matters. He had been president since 1940 after being vice-president and general manager. Before joining the firm in 1925 he worked with Cities Service companies and had been vice-president of Empire District Electric Co, Joplin, Mo.

•

Philip E. Willman has been appointed director of product design for the McGraw Electric Co, Elgin, Ill. The recently created department will be located at the company's Toastmaster Products Division, Elgin, and will be responsible for supervision of design and styling of all electric appliances of McGraw Electric and its subsidiaries. Mr Willman has been associated with McGraw Electric since 1940 in activities relating to advertising and sales promotion as well as product research and design. Previously he had his own advertising agency in Chicago.

E. P. Noppel Elected V-P; Burke Leaves Ebasco

Edward P. Noppel has been elected a vice-president of Ebasco Services, Inc. Walter H. Burke, a vice-president since the firm was formed in 1935, has retired.

Mr Noppel has been engaged in many phases of public utility operations for a number of years. Early in his career he served as an assistant engineer for the Scranton Railway Co and later was associated with the U. S. Navy Department in Philadelphia as general supervisor of electrical and mechanical construction work. Following this connection he was employed by American Electric Power Co in Philadelphia as an engineering assistant in construction and operation of power and gas plants.

EDWARD P. NOPPEL

Mr Noppel has been associated with Electric Bond & Share Co and its subsidiary, Ebasco Services, since 1925 when he started as an assistant gas engineer. Later he became sponsor engineer, operating sponsor, and then general consultant.

Mr. Noppel is a director and chairman of the policy and planning committee of the National Association of Corrosion Engineers and a director and chairman of the research planning committee of the American Gas Association.

Mr Burke spent 43 years in the electric utility field. After receiving his electrical engineering degree from the University of Maine in 1906, he spent four years in utility operations before joining Stone & Webster. In 1929 he

joined the Bond and Share organization as president of Minnesota Power & Light Co. In 1933 he was transferred to New York as administrative assistant to the head of the operating section of the company. He held this position until Ebasco was formed.

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Kennally Put in Charge of Philco's Electromaster

Thomas A. Kennally, vice-president and assistant to the president of Philco Corp since January, 1948, has been named president of the company's Electromaster electric range division. He will continue to serve as a director and member of the management committee.

Since Philco entered the electric range field by acquiring the assets of Electromaster, Inc, early this year, Kennally has worked on integrating that business with Philco's other activities and introducing the new line to the company's distributors and dealers. In his 25 years with Philco, Kennally has played a major part in building its distributor-dealer organization.

Kennally spent his first three years with the company as district sales representative in central New York. From 1927 to 1930 he was manager of the east central division in Cleveland. After five years as manager of the New York office, with a brief interlude in Chicago in 1932, he became general sales manager and, in 1941, vice-president in charge of sales.

•

William Dubilier, technical director and founder of Cornell-Dubilier Electric Corp, South Plainfield, N. J., is the recipient of two of the highest honors of France in recognition of his recent service to that country and also of his activities during World War I. These are the Honorary Medal of the Association des Ingenieurs-Docteurs de France and the Diploma of the Officer of the Academy and the Order of Academic Palms by decree of the French government. Presentation was made at the French Embassy in New York. Mr Dubilier has just returned from France, where, through the Cornell-Dubilier Electric Corp, he assisted in providing emergency relief for the serious shortage of power in that country. His service in World War I was the development, at the request of the French Government, of a submarine detector.

Darrell Dunn, of Langdon, has been elected president of the newly formed Kansas Electric Cooperative, Inc, which is the new name of the state association of rural electric cooperatives.

Howard Walters, BCER, Is New Head of NELPA

Howard N. Walters, recently elected president of the Northwest Electric Light & Power Association, is general sales manager for British Columbia Electric Railway Co.

Walters left Lines Brothers, London, in 1925 to become manager of BCER's retail store in Vancouver. From 1943 to 1945, on loan to the National War Finance Committee, he served as director of war savings in British Columbia. Rejoining the utility, he became successively director of industrial development, acting sales manager, and general sales manager.

HOWARD N. WALTERS

A native of Minnesota, Walters studied in Wallingford, England; St. Johns College, Winnipeg, and the University of Minnesota. Before entering the electrical industry, he worked in New Haven, Conn., as well as in London.

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Fred J. Walters, vice-president, Hotpoint, Inc., has assumed the responsibilities for direction of the marketing activities of the company. Mr. Walters takes over the marketing post with an extensive background of sales management. For the past two years he served as Hotpoint's vice-president of industrial relations and was responsible for developing one of the outstanding employment expansion programs in the industry. Mr Walters announced the consolidation of the company's entire field organization under **Edward R. Taylor** as sales manager. Mr Taylor has been merchandising manager.

John E. Carroll has been appointed general sales manager of the American Hoist & Derrick Co, St. Paul, Minn. Mr Carroll started with American Hoist in 1937 as a district sales representative in the Texas territory, later being assigned to Chicago and subsequently to the West Coast. He resigned his sales position to become a partner in Harron, Rickard & McCone Co of Southern California, heading the construction equipment division. He now returns to American Hoist as general sales manager.

OBITUARY

Angus D. McLay

Angus D. McLay, vice-president in charge of sales for Detroit Edison Co, died July 20, at the age of 62.

McLay, a Canadian, entered the utility industry in 1906 as an operating engineer with the Michigan Northern Power Co, Sault Sainte Marie. In 1914, while studying electrical engineering at the University of Michigan, he was hired by Detroit Edison as superintendent of the Eastern Michigan Edison Co in Ypsilanti. Later he was transferred to the Detroit office as a clerk. Before becoming a vice-president in 1943, he had held successively the positions of senior sales engineer, assistant sales manager, and sales manager.

He was a past president of the Michigan Electric Light Association and the Utility Sales Executives Conference of the Association of Edison Illuminating Companies.

Lynn S. Goodman, 66, for many years head of Boston Edison's statistical bureau and later assistant to the president, died at Wellesley, Mass., July 27. A graduate of the Massachusetts Institute of Technology, he joined the company in 1920. Goodman, an engineer-accountant, participated as an expert witness in various rate cases. He retired in March, 1948.

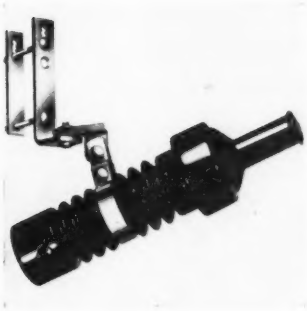
Frank Upton Bliss, Central Valleys district manager for the Western Electric Audiphone Co, died recently at Sacramento. In the past he had been general manager of the American Falls Power & Water Co, purchasing agent for the Seattle-Tacoma Power Co, and Northwest Division manager for the Mazda Lamp Division of General Electric Co.

Joseph L. Wright, 62, superintendent of the electric meter department of Toledo Edison Co, died July 5 after a long illness.

Harvey I. Thompson, 56, president of Chestertown (Md.) Electric Light & Power Co, died July 30 at his home in Villanova, Pa.

Jesse H. Hitchcock, 74, retired superintendent of the Pacific Gas & Electric Co, died recently of a heart ailment.

NEW EQUIPMENT



Primary Cutout

AN ENCLOSED primary distribution cutout, the Po-sitect, has been developed to have high short circuit interrupting ability and to embody switching ability. It is made by S & C Electric Co, 4435 Ravenswood Ave, Chicago 40, Ill.

The Positect has a fiber-lined porcelain housing, a porcelain handle with a bakelite tube containing the fuse link, and a gas-operated locking mechanism to hold the handle-and-fuse assembly in place after fault currents.

This device can switch distribution transformer load or magnetizing currents, or small capacitor bank charging current. During a switching operation, the arc is confined and interrupted within the housing.

Ratings are 50 and 100 amp 5,000 v, also 50 amp 7,500 v. Short circuit interrupting range extends to 16,000 amp. (See also EW, July 30, page 98.)

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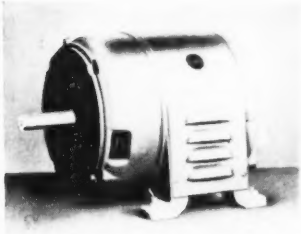

Direct Mounted Motors

EQUIPPED with machined brackets for direct mounting on almost any driven machine, a line of motors for direct connection has been announced by US Electrical Motors, Inc, Los Angeles 54, Calif., and Milford, Conn. Designated as Unimount motors, they include ratings from ½ to 500 hp.

It is reported that adaptability of mountings enables installation to be made without changing existing machine design or construction. Integral mounting brackets offering various bolt circle and surface layouts, including Footless NEMA Style C face type, are available.

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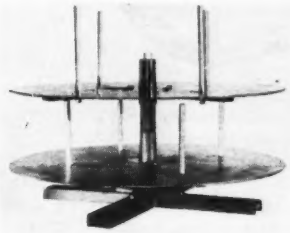

Payout Reel

FOR PAYING out two electric wires or cables simultaneously, an all-metal payout reel is manufactured by Neal Co, 4926 Grant St, Omaha 4, Neb. According to the company, it has no intricate parts to break or fail to work.

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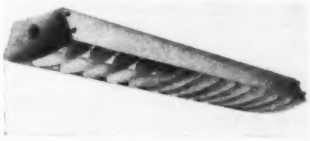
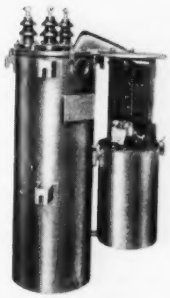


Fluorescent Fixture

SUITED to offices, stores, and particularly to classrooms, the Varsity fluorescent fixture is offered by Leader Electric Co, 3500 N. Kedzie Ave, Chicago 18, Ill. This unit may be used individually, or in continuous runs with no couplers needed.

Removable baffle-type louvers offer shielding angles of 25 to 27 deg. The fixture uses two 40-w lamps. Housing and channel are 20 gage steel, finished overall in white baked enamel. Wired units include UL and ETL approved sockets, type FS replaceable starters and UL approved ballast.



Voltage Regulator

OFFERING precise 5/8% voltage control to small sizes of distribution feeders, a low-cost pole type voltage regulator–the JFR–is made by Allis-Chalmers Mfg Co, Milwaukee 1, Wis.

This unit has ± 10% regulation and is self-contained with automatic control and line drop compensation. Its quick-break mechanism is of balanced spring design. Regulators are presently available for 10.8-kva, 7.2-kv, 15-amp service.

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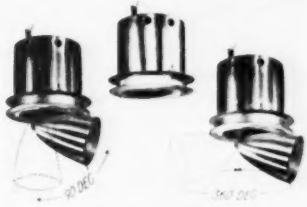
Recessed Lighting Unit

FEATURING 90-deg vertical adjustment (left) and 360-deg horizontal adjustment (right), as well as flush position, the Gyco-Lite recessed lighting unit is manufactured by Swivelier Co, Inc, 30 Irving Place, New York, N. Y. According to the company, the unit is positioned without the use of wing nuts



or set screws and will remain fixed at any angle.

For ceiling, wall or floor installation, the Gyco-Lite accommodates lamps which include the 75-w R 30 and 150-w Par 38.

ELECTRICAL BUSINESS OUTLOOK

CONSTRUCTION COSTS are levelling off after declining steadily for six months.

The *Engineering News-Record* Construction Cost Index, published by another McGraw-Hill magazine, has actually moved upward slightly in the last couple of months. It touched bottom at 472.1 in May. That was eight points, or 1.6% below its peak of last October. In June, however, the index climbed back to 477.5—reflecting a series of wage increases in the building trades. Now most labor contracts have been settled, and what happens to the index through the rest of the year will depend largely on material costs. With no marked changes expected in this field, the prospect is that the index will bump along, moving up or down slightly, but holding at a point close to today's level.

Indexes that allow for productivity—increased efficiency on the job—show a greater decline, and they may continue to fall slowly. Where the ENR index, based solely on wage and material costs, shows a drop of less than 2% since last fall, the so-called contractor indexes are off as much as 5%. The Turner index, published by the Turner Construction Co, reflects the company's experience in building in Eastern cities. It allows for material costs, wage rates, and the productivity of management and labor. It was down 5.3% in June from its postwar peak. Other contractor indexes—such as those published by Austin and Aberthaw—show about the same decline.

The indexes, however, do not reflect the full drop in construction costs. Bids and contract awards in 1949—on jobs similar to those done a year ago—show drops in prices of from 4% to 28%.

For example, low bids received by the New York City Housing Authority's Farragut Houses in Brooklyn are 28% below bids on similar jobs last year. One major reason for this sharp drop, of course, is the fact that contractors do not need to allow 10% or so of the bid to cover contingencies. Materials are in good supply and quality has improved in many cases so that long and costly delays are eliminated.

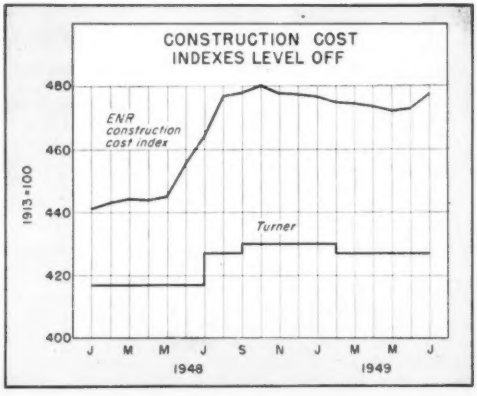
The sharp drop in bids on contracts probably puts actual cost trends fairly well in line with the trend of the cost indexes. The indexes generally did not rise as fast as did costs during the war and postwar years. Similarly, they have not dropped so rapidly. The indexes called the turns in the trends quite accurately, however. And—with the indexes levelling off—construction experts expect that actual costs will also level off.

THE BEST MEASURE of the market for new homes and for new electrical appliances is provided by the Federal Reserve Board's survey of consumer finances. The third of a series of annual surveys of consumers' financial positions and their plans to buy homes, cars, and other durable goods, the survey is a benchmark for market analysis.

On houses, the Board found, some 2.4 million spending units (families) bought new or existing homes last year. Their estimated total expenditure was about $21 billion—or about $6 billion more than was spent for housing in 1947. The survey indicates families bought about 800,000 new homes for their own occupancy—which checks with estimates of the number of homes completed during the year after allowing for those built for rental and those standing empty, awaiting buyers, at the end of the year. The estimated median price was between $7,500 and $8,500—which is, of course, an average of the prices paid in urban and rural areas.

In 1949, the Board found, well over one million families are planning to buy newly built houses. There is some shift, as compared to 1948 plans, toward lower-priced houses. Roughly half of all prospective home buyers, an estimated 600,000 families, plan to pay less than $7,000.

On the whole the survey reports that consumers plan to buy more automobiles, television sets and moderately-priced houses and fewer refrigerators, washing machines, and other selected durable goods than in 1948. The decline in demand expected, however, was small. Prices are more important to customers than they were a year ago. The survey found evidence of a strong underlying demand for major durable goods that might make itself felt if prices and qualities appeared attractive.



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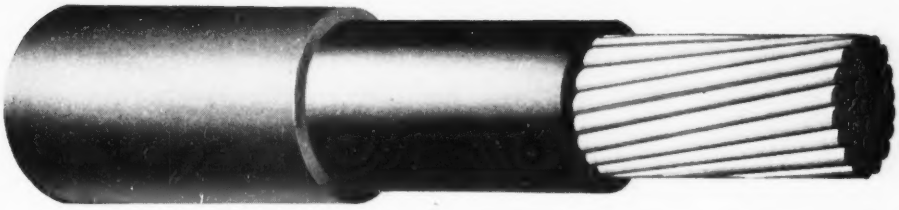
Better than ever Today

Time-tested since 1932 under all service conditions, subsequent improvements provide additional security in this long-famous network cable.



ANW
Anaconda Net Work

Tough, easily handled, Type ANW-insulated, neoprene-jacketed cable incorporates six important advantages . . . important to you for underground duct installation.

1. Better heat and flame resistance—protected by the same neoprene jacket as Anaconda mining cables which must and do meet the severe flame test of the U.S. Bureau of Mines.

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3. Higher operating temperature—now 75 C copper temperature, continuous duty.

4. Superior aging—Type ANW insulation has demonstrated year after year . . . and now even better . . . long-aging characteristics under severe oxygen bomb and air bomb tests.

5. Low moisture absorption—Type ANW insulation has always had low moisture absorption . . . far less than is detrimental to safe operation.

6. More easily handled—passes 180 degree cold-bend test at 0° C without damage to jacket. Cable is lighter, easier to pull. No lead to fuse, insulation and jacket do not support combustion.

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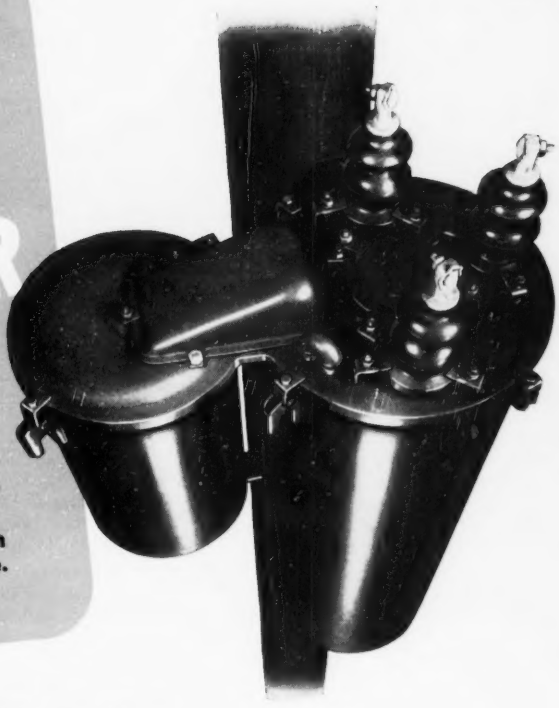

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HERE FOR THE FIRST TIME is a small economical unit for regulating (not just boosting) rural voltage.

Allis-Chalmers new pole type regulator is a fully automatic unit rated at 10.8 kva, 7200 v, 15 amp. Three years of field tests have proved its reliability.

The basic mechanism used in the new unit is the same time-tested design used in Allis-Chalmers station type single and three-phase regulators.

Ask an A-C engineer to determine the best means of improving voltage conditions on your rural lines using voltage regulators. Contact a nearby A-C Sales Office or send in the coupon.

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ALLIS-CHALMERS, 932A SO. 70 ST. MILWAUKEE, WIS.

☐ Send "When and Where to Apply Rural Voltage Regulators", Bulletin 6409.

☐ Have engineer call.

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Street.....

City..... State.....

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